STATE OF NEVADA
DEPARTMENT OF
HUMAN RESOURCES

STRATEGIC PLAN FOR
RURAL HEALTH CARE

October 2002

The Honorable Kenny C. Guinn
Governor
State of Nevada

Michael J. Willden
Director
Department of Human

STRATEGIC PLAN CONCERNING THE HEALTH CARE NEEDS OF THE CITIZENS OF NEVADA

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Assembly Bill 513

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Appendices

EXECUTIVE SUMMARY

A. PROJECT BACKGROUND

The Nevada Legislature passed Assembly Bill (AB) 513 during its 2001 session to appropriate $800,000 to the Department of Human Resources (DHR or the Department). This report presents one of four strategic plans mandated by the legislation. It was requested to develop initiatives that would ensure the availability and accessibility of health care services in rural Nevada. In September 2001, the Department convened the Rural Health Care Task Force (Task Force) to oversee the development of a rural health care strategic plan. As one of its first tasks, the Task Force engaged LECG, LLC (LECG) to assist in the development of the plan. With offices in 10 U.S. cities and six other countries, LECG has expertise in health system planning, finance, and delivery. It subcontracted with Mercer Government Human Services Consulting and McDonell Consulting to complete this initiative.

At least 20 years ago, the rural health care system in the United States was generally competitive. The capital infrastructure, including more than 1,000 hospitals built with Hill-Burton funds, was well regarded. Financing and policy schemes did not (either directly or indirectly) discriminate against the small rural provider. Primary care, embodied by the general practitioner, was the centerpiece of an individual's relationship with the health care system.

Contrast this position with the developments that have driven the health care industry's evolution over the last twenty years. Today's health care environment has many features that place the rural health care system at a distinct disadvantage. Some of the important features driving this divergence include:

- Technological advances
- Modality and acuity shifts

- Information transparency
- Rural health care revenue
- Consumer expectations

Within Nevada, residents of rural communities are frequently required to travel significant distances to obtain needed physical health, behavioral health, substance abuse, and dental services. As of January 2002, all of Nevada's 15 rural counties (either wholly or in part) were federally designated as primary health care professional shortage areas. For behavioral health care, the professional shortage area designation was given to 14 counties. For dental services, 10 entire and two partial counties were designated as professional shortage areas.

This report contains the following:

- A fact-finding section that includes results of the public input process, an analysis of insurance and other patient based payments that finance the majority of rural health care in Nevada, and a related analysis of financial flows in rural Nevada.
- A review of other States' initiatives that addresses the issues Nevada is facing, including manpower development, finance, and delivery issues.
- An analysis of health care resources and needs in rural Nevada today and over the next decade.
- Both statewide and county specific recommendations based on the policy statement and principles contained herein.

B. POLICY STATEMENT

Members of the Task Force and the consulting team thought it was vitally important to convey to the readers of this report how strongly we think about the need to provide quality health care services to rural Nevadans. After much discussion, we agreed that the following policy statement conveys the needed commitment to rural health care that we urge the Governor, Legislature, and State health policy makers to adopt:

Rural residents, like their urban counterparts, have a fundamental right to high quality and affordable health care. Access to health care services should be reasonably available to the great majority of rural residents. The vast geographic distances and low population density that characterize rural Nevada make sustaining an economically viable health care delivery system impossible without the commitment of public resources at local and State levels. Poor health in rural areas is costly, in both human and financial terms. That cost is borne by all Nevadans, just as investment in improving rural health care ultimately benefits all Nevadans. These factors, combined with an understanding of the unique importance of health care to the rural community, support the need for funding/payment structures and public policy decisions that consistently support the delivery of rural health care services.

C. PROJECT SUMMARY

1. Fact Finding

Fact finding on rural health care issues in Nevada was accomplished in numerous ways. It began with the public input process. Public input was solicited through individual or group stakeholder interviews (including Task Force members), rural community stakeholder meetings, public forums, and distribution of a consumer survey. Secondly, an inventory of current health care resources in rural Nevada was conducted. Finally, a study of insurance and cash payer financing was completed to understand who pays for what kind of health care services in rural Nevada today.

a. Public Input

From December 19, 2001 through July 24, 2002, we interviewed a total of 32 health care stakeholders regarding the current state of rural health care in Nevada, and their thoughts on how the system might be improved. We also felt that input by Nevada rural health care professionals and residents were of vital importance to the success of

this initiative. For that reason, stakeholder meetings and public forums were conducted in Battle Mountain, Caliente, Carson City, Elko, Ely, Eureka, Fallon, Hawthorne, Lovelock, Minden, Pahrump, Tonopah, Virginia City, Winnemucca, and Yerington. To obtain the input of Native American health care professionals, we met with tribal representatives at the Reno/Sparks Indian Colony. We also attended a meeting of the Committee on Emergency Medical Services to solicit the opinions of the Committee members on rural health care issues.

The consulting team also developed a survey for distribution to interested consumers. The survey was not intended to be statistically valid. Its purpose was to solicit the opinions of individuals who attended the public forums or could not be interviewed regarding health care issues. Through July 2002, 253 surveys have been returned and analyzed.

b. Health Care Financing and Insurance Coverage in Nevada – The Base Case

The base case economic model describes the dynamics of health insurance coverage, health expenditures and revenues, and employment factors in rural/frontier Nevada. Creating a model to describe current access to health care coverage establishes the benchmark for people covered, the source of their coverage, and the costs of their care.

c. Health Services Inventory

The consultants and Task Force compiled an inventory of health care facilities, their service offerings, and the number of health care professionals that are currently available in each rural/frontier county of Nevada. We then analyzed access to these facilities and personnel in relationship to Nevada's population. Finally, we used this information to develop the gap analysis and strategic plan.

Throughout this project, the Task Force and consulting team had difficulty obtaining reliable health care data. As a result, a recommendation has been added to the strategic plan to develop an integrated data collection and outcome measurement system.

2. Other States' Initiatives

The Task Force looked to other states' experiences for ways to address common rural health care problems: health professional shortages, infrastructure development, and financing issues. It should be noted that Nevada has already implemented a number of the more innovative programs and initiatives described in Chapter III.

3. Analysis

a. Gap Analysis

The gap analysis identified projected gaps in availability and accessibility of appropriate health care services in rural/frontier Nevada. LECG analyzed gaps along three parameters: primary care workforce, health services and economic sustainability, and coverage. For each parameter, we compared the current status to the proposed standard; this allowed us to identify gaps in the rural health care system.

b. Financial Analysis

In rural/frontier Nevada, the estimated returns of increased health care expenditures are high because of the skilled nature of health related jobs that would be created. The overall economic impact of the health care sector on employment and income in rural Nevada (excluding Carson City) is 4,673 jobs and more than $145 million annually.

4. Developing the Strategic Plan

In addition to the fact finding process described previously, the Task Force heard presentations from a number of State agencies and health care organizations, including the Office of Rural Health, the Nevada Indian Commission, the Department's Division of Mental Health and Developmental Services and Bureau of Alcohol and Drug Abuse, and the Carson City Mental Health Coalition. The Task Force spent several working sessions developing the policy statement and principles included in this report. They focused Task Force discussions and development of the strategic plan.

D. THE RURAL HEALTH CARE ENVIRONMENT IN NEVADA

Geography and population density are probably the two most important characteristics of rural Nevada that must be considered to understand the difficulties inherent in providing health care services. The geography of rural Nevada is a significant barrier to efficient provision of care. Stakeholders and community members reported traveling hundreds of miles to receive care. Air and ambulance transport can provide life saving access for emergency services; however, both are subject to weather and other delays, including equipment availability, on a regular basis.

The population density of rural Nevada averages 2.96 people per square mile. To understand this level of population density, Carson City had a population density of 366.8 persons per square mile in 2000. [1]

The access standard for primary care services set by the Task Force was one hour travel time for 90 percent of the rural/frontier population. LECG reviewed how the current primary care facility locations satisfied this standard. Results of the analysis show that a one hour drive time covers 78 percent of the rural/frontier population, 12 percent less than the Task Force's standard. If tribal health clinics were to provide access to all rural residents, coverage would increase to 89 percent of the population.

There are several communities that are completely unserved, including Warm Springs, North Fork, and Round Mountain.

The behavioral health care analysis indicates that a one hour drive time covers 81 percent of the rural/frontier population, nine percent less than the standard set by the Task Force. However, because of critical staffing shortfalls, the existence of clinics does not ensure that services can be provided on a regular basis.

To access secondary services, LECG looked at the standard set by the Task Force; this standard is 45 minutes driving time for 90 percent of the rural/frontier population. Since ambulances can provide some secondary care services (at least on an intermediate basis while transporting a patient to a facility), we added locations in which ambulance services are available 24 hours a day. Results of our analysis show that from existing hospitals, a 45 minute drive time covers 61 percent of the rural/frontier population, 29 percent shy of the Task Force's standard.

The analysis shows that two-thirds of the rural/frontier population has access to a tertiary center within three hours driving time, while only one-third of the rural/frontier population has access to a tertiary center within one hour driving time. That is 24 and 57 percent less than the Task Force's acceptable standards for a planned event and an emergency, respectively. However, these figures increased to 100 and 83 percent, if one assumes air transport is available.

From 1990 to 1999, Nevada's population grew by 50.6 percent. This represents the fastest rate of growth of any state during the same time period and five times the population growth rate for the entire nation. Population growth has not been limited to the State's urban counties. Indeed, 11 of the State's 15 rural and frontier counties posted double digit percentage increases in population during the past decade; these counties are projected to grow at a faster rate (28.6 percent) than urban Nevada.

[1] The rural/frontier population density, excluding Carson City County, is 2.4 persons per square mile.

In addition to rapid population growth, population aging is a significant demographic influence on health and health care services. The State Demographer projects that the number of Nevadans age 65 years and older will increase by approximately 78 percent over the next 10 years.

The proportion of children is expected to decrease from 26 percent of total population in 2000 to 21 percent in 2015. Adults age 65 years and older are expected to increase from 11 percent in 2000 to 16 percent in 2015 without factoring in the rate of senior citizen migration.

LECG estimates that the proportion of persons insured through government and private-sector employer-based insurance in rural/frontier Nevada will decrease from 54 percent of total rural/frontier population in 2000 to 51 percent in 2015. Nearly 26 percent of children and 23 percent of adults under 65 years of age in rural Nevada were uninsured in 2000. The percentage of uninsured in rural Nevada was estimated at 21.4 percent in 2000. Total uninsured is forecast to increase in absolute terms but remain constant between 20 and 21 percent of the total rural/frontier population from 2000 to 2015.

The following data provides a description of the insurance and payment situation in rural/frontier Nevada in 2000. See Appendix H, Table 2 and Figure 3.

- 22 percent of rural/frontier Nevadans receive health insurance from government-sponsored insurance (i.e., Medicaid, Medicare, and Military/Veteran); 36 percent of insurance-based health care expenditures can be attributed to the same group of Nevadans.
- 54 percent of rural/frontier Nevadans receive health insurance from employer-based insurance (including government employees); 51 percent of insurance-based health care expenditures can be attributed to this group.
- Eight percent of rural/frontier Nevadans receive health insurance from other private insurance; six percent of insurance-based health care expenditures can be attributed to the same group.

- 21 percent of rural/frontier Nevadans have no health insurance, and represent seven percent of the documented health care expenditures.

In most rural communities, to talk about health care delivery, one must talk about hospitals. Hospitals are the cornerstone of health care delivery in rural Nevada. There are 14 hospitals in rural Nevada. All but two are non-profit. In rural locales, there are approximately 258 acute care beds and approximately the same number of long term care beds. Seven rural hospitals provide long term care services to address community needs. These facilities' financial viability rests heavily on their LTC components.

Where hospitals are not available, rural health clinics provide access to primary care services. There is a network of clinic providers across the state. However, there are glaring exceptions to clinic coverage. Some communities have no primary care provider, or limit the individuals (such as Medicaid recipients) that they will treat.

EMS are inadequate in most rural communities. Although capital equipment is generally available, it is old and unreliable. Neighboring counties often do not have the same telecommunications systems and have difficulty communicating with each other. Even within a community, the hospital, providers, and EMS personnel are often unable to communicate among themselves because of county topography or aging radio and telephone equipment.

Access to specialty services is marginal for rural Nevadans. This is particularly true for obstetric and pediatric services. Although the recent malpractice insurance crisis may have exacerbated these issues, it is clear that workforce development is probably the single most pressing long-term need for rural health care delivery in Nevada. In addition to the specialist types listed above, behavioral health, substance abuse, and dental providers should be added to the list of critically needed practitioners in rural communities.

Availability of health care professionals does not equate to people actually receiving services. Anecdotal evidence suggests that although facilities and personnel

are available in some communities, rural/frontier residents are not always able to access these providers. The most glaring example of this is the lack of acceptance of Medicaid patients by dental providers.

To the extent that resources are available, American Indians and Alaska Natives served by IHS receive preventive, primary medical care (hospital and ambulatory), community health, substance abuse, and rehabilitation services. However, in Nevada there has consistently been inadequate resources and funding for tribal facilities. The Nevada facilities must compete with Arizona and Utah for limited federal funding. Currently, about $500 in IHS funding is allocated annually for each Native American in Nevada. Other than individuals who qualify for Medicaid, no State funds provide health care services for Native Americans in Nevada. All funding comes from the federal government and the tribes.

All of the issues (e.g., manpower shortages, poor transportation, limited technology, and little preventive care) described in this report also affect Native Americans in Nevada. The health status of Native Americans in Nevada is worse than the average Nevadan. Problems that have been identified include:

- Poor nutrition, coupled with unsafe water supplies and inadequate waste disposal facilities, have resulted in a greater incidence of illness among Native Americans.
- Other major health concerns include maternal and child health needs, otitis media, and problems associated with aging. Heart disease, alcoholism, mental illness, diabetes, and accidents are also serious problems for Native Americans.
- Many reservations and Indian communities are located in isolated areas where impassable roads and populations spread out over miles create challenges to providing quality health care.

E. RURAL HEALTH CARE ISSUES IN NEVADA

During its deliberations, the Task Force identified many critical issues. The following summarizes the most urgent.

1. Access to Care

The number one issue in rural health care in Nevada is lack of access to needed medical care. This issue was confirmed by the stakeholders, community residents, the inventory of services, the base case findings, the gap and financial analyses, and survey results. The issue has many aspects, including workforce, transportation, finance, demographics, and geography.

Access problems affect the under and uninsured, individuals on Medicaid, women (including pregnant women), adolescents, Veterans, and adults not yet eligible for Medicare. Individuals with limited income are often not able to purchase health insurance. If Nevada residents are employed, coverage for their dependents is frequently unaffordable.

As one might expect, the issues and recommendations concerning access varied from community to community (see the Community Profiles for county-specific suggestions). However, there were common suggestions across communities:

- To attract health care professionals to rural communities, housing, malpractice insurance, and other benefits should be provided.
- Mobile vans are needed in areas that do not have health care providers.
- Hospitals need modern equipment to provide basic diagnostic care (x-rays, CT scans, ultrasounds, blood work, etc.).
- All Nevada residents should be able to access care at any Nevada facility (including Native Americans, Medicaid and Medicare recipients, and Veterans).
- Nevada needs additional J1 Visa physician slots; the application process needs to be streamlined.
- There should be a one-stop gateway to care; primary care and behavioral health care must be integrated, and case coordinators must be available to help patients navigate the system.
- State agency administration in rural communities should be consolidated into a single location to allow the sharing of administrative resources.

5. Insurance and Other Coverage Issues

The uninsured rates in Nevada and rural Nevada are among the highest in the nation. Currently, when one excludes senior citizens, nearly one in four rural Nevadans is without health insurance.

While premiums have been rising across the State and nation this past year, reported premium increases in rural Nevada are at crisis levels. Stakeholders, community residents, and local government leaders reported health insurance premiums ranging from $400 to over $900 per month; increases up to 40 percent were noted. In several counties, the number of county employees who elect to purchase family coverage has fallen to less than 5 percent of the workforce. One county reported that only 2 percent of its workforce has elected family coverage.

Insuring more individuals in rural/frontier Nevada will lead to, among other things:

- Greater economic activity in the health sector (which will in turn affect the entire economy)
- Increased money in the economy, particularly if both private and public sector programs are used to maximize Federal funding
- Greater worker retention for employers, which may enable them to reap the benefits of investments in human capital for longer periods of time
- Lower health care premium costs across the population
- Overall improvement in average health status of workers and greater worker productivity

6. Hospitals

Hospitals are the core health care facility in most rural communities. Each of the facilities is needed to reach 61 percent of rural residents within the Task Force's access standard of 45 minutes driving time. With the addition of proposed hospitals in Gardnerville, Pahrump, Overton, Mesquite, and Wendover, this percentage is increased to 65 percent. Including ambulance services raises coverage to 80 percent.

The financial condition of most of Nevada's rural hospitals is often tenuous. One event can, and often does, make the difference between positive and negative financial outcomes. Examples include the loss of one physician, the departure of one major employer from the community, or a State budget shortfall that unexpectedly reduces payment sources.

7. Long Term Care

The supply of nursing home beds in non-metropolitan areas is nearly 43 percent higher than in metropolitan areas. Rates of institutionalization are higher among rural seniors compared with their urban counterparts. Whether due to the lack of alternatives, such as home based care, or the availability of beds driving greater institutionalization, nursing facility payments are the largest part of most states' (including Nevada's) Medicaid budgets and growing rapidly.

With a large and growing proportion of the elderly in rural communities, stakeholders expressed concern about the capacity and financing of inpatient long-term care and its facilities. Rural communities will not likely be able to obtain the resources required to support both inpatient needs and programs that foster independent living. Staffing inadequacies also affect the availability of home and community based services.

8. EMS

In rural settings, EMS rely heavily on volunteers. Simply recruiting and maintaining sufficient numbers of trained people challenges communities. In addition, funding communication, transportation, and clinical equipment burdens local budgets, especially in times of economic downturn. One result is a patchwork of radio and telephone equipment, which at best limits communication between emergency medical systems across jurisdictional lines and, at worst, fails altogether. While far from optimal

under any circumstances, the inadequacy of the rural emergency provider network (EMS, law enforcement, and hospitals) to communicate is of special concern in the face of biohazards or terrorism.

There are many key issues that must be addressed to develop EMS effectiveness. Below are the most pressing needs for improving the effectiveness of Nevada's EMS system:

- **Recruitment and retention –** The Nevada EMS and the local communities report major problems in trying to attract people to serve in a (largely) volunteer service. Indeed, some communities have transport equipment that goes unused because the workforce is not available.
- **Clinical quality –** The pace of clinical advancement seems to accelerate every year and physicians routinely report their inability to keep current with the latest treatments and protocols. However, the flip side of this "knowledge gap" is that esoteric treatments, once appropriate only for the academic medical center environment, continually filter down as this knowledge becomes more widely disseminated and accepted. Rural communities and their EMS personnel are often overlooked in their potential ability to treat complex clinical conditions.
- **EMS communication system integration –** Significant problems were reported in the currently disparate communications systems being used by ground and air EMS systems and their supporting hospitals.
- **Regulatory relief –** EMS is subject to significant federal, State, and (sometimes) local regulations. Often times these regulations no longer reflect the true clinical realities, particularly within the limits of the rural communities.

9. Behavioral Health

Behavioral health manpower is also addressed in the workforce section, below. Publicly available data is misleading with respect to behavioral health practitioners in rural Nevada. Every community reported a shortage of staff. Licensure data indicates otherwise, but does not account for non-practicing professionals, or those who are licensed in one locale but practice in another.

The Division of Mental Health and Developmental Services has serious staffing shortages in rural communities. At any one time, the Division has 10 – 15 vacancies.

Over the last two years, DMHDS managers have interviewed well over 100 people for positions within the Division.

Not only is local access limited, but transportation to urban services for those in acute need is problematic for hospitals, local law enforcement, and EMS. Financing of behavioral health and substance abuse services was also listed as a significant difficulty.

10. Workforce

As stated previously, the most significant health care issue that was identified by the stakeholder interviewees was poor health care access because of insufficient numbers of health care professionals. This included physicians (primary and specialty care), nurses, dentists, psychiatrists, behavioral health and substance abuse professionals, pharmacists, certified nurse's aides, laboratory and radiology technicians, and medical coders and billers. Suggestions to address this issue included:

- Develop incentives to practice in rural areas
- Award Millennium Scholarship funds to individuals pursuing health care professions
- Implement licensing requirements that support providers' placement in rural communities
- Support the rural practice environment (on-call arrangements, on-going training, telemedicine, loan forgiveness, scope of practice expansions, etc.)
- Ensure realistic rural reimbursement for public programs, such as Medicaid, Nevada Check-Up, and disproportionate share
- Develop mobile dental and medical capabilities

Information provided by the Office of Rural Health shows that there are currently 193 residents training in Nevada; 130 are in Las Vegas and 63 are in Reno. It is estimated that 50 percent will remain in the State to practice after their training is completed, although most will likely work in Clark or Washoe Counties.

According to the federal Health Resources and Services Administration, there are 786 nurses for every 100,000 citizens in the United States. In Nevada, there are 520. This ranking is the lowest in the nation. The average nurse vacancy rate in Nevada hospitals is 14 percent, although some hospitals have a vacancy rate as high as 30 percent. A crisis is considered to be 9 percent. Nevada also has the lowest proportion of pharmacists to citizens in the nation.

Several of the interviewees were critical of the Nevada state boards that license physicians, dentists, and nurses. Licensing requirements are too stringent and a lack of reciprocity with other states hinders the State's ability to attract physicians to Nevada.

The gap analysis for physical health physicians, dentists, and behavioral health practitioners shows severe shortages today and into the future. This result is at odds with the State's licensure data. However, when the State licensure data is reconciled with surveys conducted by LECG, the Office of Rural Health, and other State agency information, the picture is clear. Anecdotal and stakeholder input was almost always consistent with the survey and State agency data.

11. Public Health

Services provided by the Bureau of Community Health's community health nurses were cited repeatedly as one of the significant successes in rural health care delivery in Nevada. The nurses are respected members of the health care community in rural counties.

Public health services should be strengthened and integrated into the overall health care delivery system. It was suggested that DHR work with interested counties to develop local health departments. Additionally, expansion of the scope of practice of community health nurses should also be considered.

12. Telemedicine

Currently, there are telemedicine projects in various stages of development in at least 40 states (including Nevada). The most prevalent uses have been in health professional education and training, continuing education, and fixed image transmission, such as teleradiology. The technical capacity to apply telemedicine in direct service delivery is evolving, particularly in home health care, behavioral health, and specialty consultation.

A telemedicine network developed by the Northeast Nevada Area Health Education Center, with support from the Nevada Legislature, the University of Nevada School of Medicine, Nevada Rural Hospital Partners, and various federal programs links Nevada rural communities. Utilization is growing but administrative and payment issues are ongoing difficulties. Additional efforts are needed. Reportedly, there are ongoing concerns regarding access to the Internet, as well as training and liability issues surrounding the appropriate use of telemedicine in rural Nevada.

13. Transportation

Transportation for emergency, non-emergent, and chronic care services was raised in every community as a significant barrier to care. This service gap most critically affects Veterans, senior citizens, and the needy.

Behavioral health and substance abuse transports are an ongoing crisis in most rural communities. Statute and regulation require that law enforcement personnel transport individuals in crisis; in some instances, medical personnel are also required. Because admission at State behavioral health and detox facilities is not mandatory in all cases, the transport personnel can be tied up for many hours waiting for the patient to be admitted, or even refused. This is a significant expense for county law enforcement, as well as the behavioral and physical health providers.

14. State Health Care Responsibilities

Interviewees reported that there is little State financial support for health care in rural communities. After funding is distributed to Las Vegas and Reno, only 5 to 10 percent remains for rural counties. Several individuals stated that health care cannot exist on its own in rural areas; federal, State, county, and patient support is vital.

Other interviewees said that the State must determine the extent of its health care responsibilities. The Legislature should guarantee a level of service to its residents, and if they wish, the counties can enhance this level. Areas that the interviewees thought that the State should help fund include:

- EMS infrastructure, equipment, and communication capabilities
- Development/expansion of rural health centers for delivery of physical and behavioral health care services and substance abuse prevention/treatment
- Service coordination infrastructure to ensure comprehensive access to care (no-wrong-door)
- Health care transportation systems
- A regional behavioral health center in Elko
- A low cost loan fund to support capital needs for health care facilities

15. Preventive Health

Another area of importance to the individuals we interviewed was the development of preventive health initiatives. As the statistics included in Appendix G indicate, the health of Nevada's citizens requires significant interventions/improvement. Suggestions included:

- Developing/enhancing programs for smoking cessation, suicide prevention, and preventing school drop-outs, teen pregnancies, and drug/alcohol abuse
- Expanding the community health infrastructure to increase care options for rural residents
- Designing an effective statewide public health campaign to address the need for good nutrition and fitness

16. Data – Availability, Accuracy, and Accessibility

As indicated throughout the report, the availability of and confidence in data is an ongoing concern. There is no agency with a mandate and funding to collect rural health data. The limited data that is available is often misleading, inaccurate, or dated. The Task Force recommends that the Legislature fund the Office of Rural Health and charge it with the responsibility of collecting, consolidating, and coordinating rural health data. This data would be used for planning and funding purposes.

F. RECOMMENDED GOALS, STRATEGIES, AND ACTION STEPS FOR NEVADA RURAL HEALTH CARE

The Rural Health Care Task Force strategic plan begins with a statement of principles developed by the Task Force to help guide the planning process. The principles include elements of the Task Force's policy statement, social contract considerations, and the rationale for supporting specific recommendations. Statewide goals, strategies, and action steps are included; county-specific suggestions are also presented at the end of each community profile.

1. Statewide Goals and Strategies

The strategic plan goals are intended to represent statewide issues presented in four general categories: planning and coordination, service delivery, sustainable financing, and infrastructure development.

a. Planning and Coordination Goal

- Create an ongoing mechanism for planning and coordination of rural health care

b. Service Delivery Goals

- Enhance rural physical health primary care model
- Create long term viability in behavioral health, substance abuse, and support services

- Improve service access and response capabilities
- Invest in public and preventive health for long term benefits

c. Sustainable Financing Goals

- Improve insurance coverage for uninsured and underinsured Nevadans
- Develop adequate capital funding
- Develop adequate operational funding

d. Infrastructure Development Goals

- Ensure long term viability of rural health care facilities
- Expand capacity to provide health care services within rural communities
- Support maximum use of technology in rural communities

17. County Specific Issues

Although each of the 15 communities that we visited was very different and had its own health care issues and needs, there were some common issues. These issues are described extensively in the report's last chapter, but include:

- Accessibility to needed health care services, including primary care, specialty care, behavioral health and substance abuse services, dental care, long term care, and social services (including transportation)
- Lack of sufficient number and mix of health care professionals
- Increasing number of uninsured individuals in rural communities
- Lack of chronic and preventive care services
- Need for county or regional health departments

G. CONCLUSION

This report highlights the substantial health care issues and needs that exist in rural Nevada. Consideration of the action steps contained in the strategic plan is the first, and most critical, activity. Numerous decisions are yet to be made. We strongly recommend that the Governor and the Legislature implement a quasi-governmental

board for rural health planning and coordination. This board can then consider the numerous activities contained in the strategic plan and suggest funding priorities based on available resources.

Another key factor to the success of rural health initiatives is the development of an integrated data collection and outcome measurement system. Unless the Governor, the Legislature, and State policy makers have access to complete, correct, and current health care data, rural health care initiatives will only be stopgap solutions.

As stated in the Task Force's policy statement, rural residents, like their urban counterparts, have a fundamental right to high quality and affordable health care. Implementation of the Rural Health Care Task Force's strategic plan will assure that rural health care is available, of high quality, and affordable. We urge the Governor, Nevada legislators, and State policy makers to give it serious consideration.

I. INTRODUCTION

A. PROJECT BACKGROUND

Assembly Bill (AB) 513 was passed by the Nevada Legislature during its 2001 session to appropriate $800,000 to the Department of Human Resources (DHR or the Department. Please see Appendix A for a list of acronyms used in this report). These funds were allocated to DHR to develop four strategic plans related to the health care needs of Nevada residents. AB 513 stated that two strategic plans should ensure the availability and accessibility of a continuum of services for Nevada's senior citizens and persons with disabilities, and support their ability to lead independent lives. The third strategic plan required a sound methodology for the establishment and periodic adjustment of rates paid by the State for contracted health and human services.

The fourth strategic plan was requested to develop initiatives that would ensure the availability and accessibility of a continuum of health care services in rural Nevada. AB 513 required the Department to contract with "…one or more persons who have knowledge about and experience in facilitating group discussions which include divergent points of view and perspectives to achieve consensus and mutual satisfaction in an effective planning process…"It also required public hearings to obtain information from a wide range of Nevada citizens prior to the development of the strategic plan. This report is in response to the Assembly Bill.

In September 2001, the Department convened the Rural Health Care Task Force (Task Force) to oversee the development of the rural health care strategic plan. As one of its first tasks, the Task Force engaged LECG, LLC (LECG) to assist in the development of the strategic plan. With offices in 10 U.S. cities and six other countries, LECG has expertise in health system planning, finance, and delivery. It subcontracted with Mercer Government Human Services Consulting and McDonell Consulting to complete this initiative.

At least 20 years ago, the rural health care system in the United States was generally competitive. The capital infrastructure, including more than 1,000 hospitals built with Hill-Burton funds, was well regarded. Financing and policy schemes did not (either directly or indirectly) discriminate against the small rural provider. Primary care, embodied by the general practitioner, was the centerpiece of an individual's relationship with the health care system.

Contrast this position with the developments that have driven the health care industry's evolution over the last twenty years. Today's health care environment has many features that place the rural health care system at a distinct disadvantage. Some of the important features driving this divergence include:

- Technological advances – Investment in medical technology research and development increased from $4 billion in 1990 to more than $9 billion in 2000. Today, more than 350 medical devices, pharmaceuticals, and biotechnology applications are in governmental approval processes. Every health care entity is (or should be) concerned about its ability to finance or deliver these emerging capabilities.
- Modality and acuity shifts – As treatments move from inpatient to outpatient settings, there are two impacts. In the short term, there is a capital and asset management challenge, as organizations attempt to reallocate resources into appropriate areas. The long-term challenge is to invest in new inpatient capabilities, as previously untreatable conditions become treatable and curable. These new capabilities are highly technical and require specialized labor.
- Information transparency – The Internet's legacy to health care will be an increased visibility of information. Consumers, providers, financiers, policy makers, and drug and equipment makers are acquiring an understanding of each other's clinical, operating, performance, and cost parameters. Over time, this will lead to a greater emphasis on value-based decision making.
- Rural health care revenue – Overall, the hospital industry and the majority of facilities generally have sufficient revenue to maintain their economic viability. However, the typical rural facility is an exception to this rule. Higher than average Medicare, Medicaid, and self-pay/no-pay populations preclude any significant ability to shift the cost of care onto third party commercial insurers (usually the best revenue streams). In addition, the Medicare and Medicaid payment systems often do not favor the primary care service delivery model typically used by rural hospitals.

- Consumer expectations – Consumers have come to expect high quality service, on demand, and at essentially stable prices. This consumer expectation will pose challenges to the health care industry as baby boomers enter their peak health care consuming years.

In Nevada, physical and behavioral health services are generally available through a network of rural health clinics, and emergency medical services (EMS) are available almost exclusively through volunteer EMS agencies. However, residents of rural communities are frequently required to travel significant distances to obtain needed physical health, behavioral health, substance abuse, and dental care services. The combination of limited populations, small economic bases, and large geographic distances make it difficult for private health care providers to generate sufficient revenues to offset capital and operating costs.

As of January 2002, all of Nevada's 15 rural counties (either wholly or in part) were federally designated as primary health care professional shortage areas (HPSAs). For behavioral health care, the professional shortage area designation was given to 14 counties. For dental services, 10 entire and two partial counties were designated as professional shortage areas. Residents requiring specialty care are frequently required to travel to Carson City, Las Vegas, Reno/Sparks, California, or Utah to obtain needed services.

Both the private and public sectors provide health care services in rural Nevada. Private sector providers include some rural hospitals, private practitioners, and primary care clinics, such as community health centers. Public providers include DHR's Divisions of Health and Mental Health and Developmental Services, Indian Health Service (IHS), and most rural hospitals. County or regional health departments do not exist in any rural community.

B. FACT FINDING

Designing the fact finding process involved deciding which areas of Nevada should be included. It is recognized that not all federal definitions of "rural" will include Carson City now that the 2000 census shows a population of 52,000. However, the Task Force elected to include Carson City in this plan because of the many programs, requirements, and regulations that are driven by Nevada's statutory definitions, which segment urban and rural. This language is expressed throughout the Nevada Revised Statutes as "counties with populations in excess of 100,000" meaning Washoe County, "counties with populations in excess of 400,000" meaning Clark County, and "counties with populations less than 100,000" meaning all other counties. The Task Force also took into account the prison population in Carson City (approximately 3,000), which, when considered, drops the permanent residents to below the 50,000 federal threshold. It should be noted that including Carson City in some of the data could lead to conclusions that are inaccurate for the frontier areas of the State. Users of this strategic plan are urged to take this into account when making specific programmatic decisions.

Fact finding on rural health care issues in Nevada was accomplished in numerous ways. Foremost was through the collection of public input. Public input was solicited through four means:

- Individual or group stakeholder interviews (including Task Force members)
- Rural community stakeholder meetings
- Public forums
- Consumer survey

From December 19, 2001 through July 24, 2002, we interviewed a total of 32 health care stakeholders regarding the current state of rural health care in Nevada, and their thoughts on how the system might be improved. These individuals represented the Nevada Legislature, state and federal governments, health care providers, associations, advocacy groups, academia, and other companies and organizations. A

complete list of organizations and agencies is included in Chapter II. A list of interviewees is included as Appendix B at the end of this document. The interview questions are included as Appendix C.

Input from Nevada rural health care professionals and residents was of vital importance to the success of this initiative. For that reason, stakeholder meetings and public forums were conducted in Battle Mountain, Caliente, Carson City, Elko, Ely, Eureka, Fallon, Hawthorne, Lovelock, Minden, Pahrump, Tonopah, Virginia City, Winnemucca, and Yerington. To obtain the input of Native American health care professionals, a statewide meeting was held at the Reno/Sparks Indian Colony. We also attended a meeting of the Committee on Emergency Medical Services to solicit the opinions of the Committee members on rural health issues.

In an effort to facilitate maximum participation by consumers, the public forums were conducted in the evening. Attendance ranged from two to approximately 40 people. A number of the attendees presented their views regarding the problems/issues with the rural health care system in Nevada and their priorities and solutions for its improvement.

The consulting team developed a survey for distribution to interested consumers; the survey was not intended to be statistically valid. Its purpose was to solicit the opinions of individuals that attended the public forums or could not be interviewed regarding health care issues. Through July 2002, 253 surveys have been returned and analyzed.

Other fact-finding activities focused on describing the delivery of health care services, infrastructure, and financing in rural Nevada. To that end, the consulting team developed objective inventories of services and infrastructure based on a:

- Provider survey
- Third party data analysis

- Data from State agencies
- Data and information from private sector agencies

Financing of health care is based on LECG's "base case" modeling, which considers the flows of payments and expenditures on care in Nevada; particular emphasis is placed on rural Nevada. Insurance coverage by population group and uninsured rates are used to base forecasts of demand, cost, and payments over the next ten years.

C. POLICY STATEMENT

Members of the Task Force and the consulting team thought it was vitally important to convey to the readers of this report how strongly we think about the need to provide quality health care services to rural Nevadans. After much discussion, we agreed that the following policy statement conveys the rural health care commitment that we urge the Governor, Legislature, and State health policy makers to adopt:

> Rural residents, like their urban counterparts, have a fundamental right to high quality and affordable health care. Access to health care services should be reasonably available to the great majority of rural residents. The vast geographic distances and low population density that characterize rural Nevada make sustaining an economically viable health care delivery system impossible without the commitment of public resources at local and State levels. Poor health in rural areas is costly, in both human and financial terms. That cost is borne by all Nevadans, just as investment in improving rural health care ultimately benefits all Nevadans. These factors, combined with an understanding of the unique importance of health care to the rural community, support the need for funding/payment structures and public policy decisions that consistently support the delivery of rural health care services.

D. GAP ANALYSIS

The gap analysis identifies any projected shortfalls in the availability and/or accessibility to an appropriate array of physical and behavioral health services in rural/frontier Nevada.[2] The health services inventory was used to establish the current supply of services. The future demand for services was estimated using various analytic techniques, industry standards, and input from the community groups. These efforts culminated in a series of service standards that were discussed and adopted by the Task Force. We analyzed data to identify gaps along three parameters:

- Is there an adequate base of primary care workforce (defined as primary care physicians, mid-level providers, nurses, dentists, behavioral health professionals, and substance abuse practitioners)?
- Is there an appropriate array and capacity of core health services across the physical and behavioral health continuum, and is this capacity economically sustainable over the planning horizon?
- Are the services physically located in a manner that there is reasonable access to these services by the rural/frontier population?

E. RECOMMENDED GOALS, STRATEGIES, AND ACTION STEPS FOR RURAL HEALTH CARE NEEDS IN NEVADA

The recommended goals, strategies, and action steps for rural Nevada strive to incrementally improve upon the system already in place. The Task Force divided the goals into four components: planning and coordination, the delivery of care, the infrastructure needed to deliver care, and the finances required to ensure that care delivery is sustainable.

In developing the strategic plan, the Task Force considered the opinions of the stakeholders and rural residents, objective data, the impact of changes on the local and State economy, the consultants' expertise, and initiatives that have been successful in

[2] The list of rural and frontier counties is included as Appendix D. Because of its frontier nature, for the gap analysis we included the northern part of Washoe County (essentially north of Pyramid Lake) to determine the proportion of population covered by existing facilities.

other states. The plan begins with a statement of principles developed by the Task Force to help guide the strategic planning process. These principles include elements of the policy statement, the health care social contract, and the rationale for supporting specific recommendations.

The strategic plan focuses on statewide initiatives. The Community Profiles section of the report lists county-specific suggestions made by stakeholders or community residents. Many of the county suggestions are quite specific and are intended to address unique circumstances or immediate needs.

The following chapter presents a summary of this project's fact finding process. It includes a discussion of how public input was obtained, the base case modeling methodology, and other data collection efforts.

II. FACT FINDING

This chapter of the report discusses all aspects of the fact finding process. We first describe the public input process, then present the base case economic modeling methodology. Finally, we explain the results of the economic modeling and other data collection efforts.

A. PUBLIC INPUT PROCESS

Nevada has a tradition of involved citizen debate in policy discussions and State/local concerns. Citizen involvement is also important to the LECG team and has been used successfully in other consulting assignments. For this project to produce a product that is not only acceptable to the Task Force and the people of Nevada but is also implementable, the opinions of health care stakeholders and other citizens were a crucial component.

Public input was solicited through four means:

- Stakeholder interviews
- Community stakeholder meetings
- Public forums
- Consumer surveys

From December 19, 2001 through July 24, 2002, we interviewed a total of 32 health care stakeholders regarding the current state of rural health care in Nevada, and their thoughts on how the system might be improved. These individuals represented the Nevada Legislature, State and federal governments, health care providers, associations, advocacy groups, academia, and other companies and organizations. The organizations and agencies included:

State and Federal Government

- Department of Administration
- Department of Human Resources
- Division for Aging Services
- Division of Health Care Financing and Policy
- Division of Mental Health and Developmental Services
- Nevada Indian Commission
- Nevada State Assembly
- Nevada State Board of Dental Examiners
- Nevada State Board of Nursing
- Nevada State Board of Pharmacy
- Nevada State Health Division
- Office of the Attorney General
- U.S. Department of Agriculture

Health Care Providers

- Nevada Health Centers, INC.

Associations, Foundations, and Advocacy Groups

- Human Potential Development
- Nevada Health Care Association
- Nevada Hispanic Services, Inc.
- Nevada Hospital Association
- Nevada Public Health Foundation
- Nevada Rural Hospital Partners

Academia

- University of Nevada Reno, Department of Applied Economics and Statistics
- University of Nevada School of Medicine
- University of Nevada School of Medicine, Office of Rural Health
-

Other Companies and Organizations

- Storey County Senior Citizens Center

A list of interviewees is included as Appendix B at the end of this document. The interview questions are in Appendix C.

Please note that representatives of the above named organizations were interviewed to obtain a statewide perspective on rural issues. Interviewees were selected based on the suggestions of Task Force members and DHR staff.

The Task Force also heard presentations from a number of State agencies and health care organizations. These entities included the Office of Rural Health (ORH), the Nevada Indian Commission, the Department's Division of Mental Health and Developmental Services (DMHDS) and Bureau of Alcohol and Drug Abuse, and the Carson City Mental Health Coalition.

We also felt that input by Nevada rural health care professionals and residents was of vital importance to the success of this initiative. For that reason, stakeholder meetings and public forums were conducted in Battle Mountain, Caliente, Carson City, Elko, Ely, Eureka, Fallon, Hawthorne, Lovelock, Minden, Pahrump, Tonopah, Virginia City, Winnemucca, and Yerington. To obtain the input of Native American health care professionals, we met with tribal representatives at the Reno/Sparks Indian Colony. We also attended a meeting of the Committee on Emergency Medical Services to solicit the opinions of the Committee members on rural health issues.

Stakeholder meetings were held in each community we visited to obtain input on issues specific to the community and also on a statewide basis. We invited representatives of local hospitals, clinics, home health agencies, long term care and assisted living facilities, social service agencies, mental health and substance abuse agencies, police and fire departments, as well as legislators, county commissioners, county managers and finance directors, physicians, county health officers, community health nurses, and dentists. All health care related individuals and other interested parties were urged to attend. A list of individuals who attended each meeting is included in Appendix E.

In an effort to facilitate maximum participation by consumers, public forums were conducted in the evening. Attendance ranged from two to approximately 40 people. A number of the attendees presented their views regarding the problems/issues with the rural health care system in Nevada and their priorities and solutions for its improvement.

The consulting team also developed a survey for distribution to interested consumers. The survey was not intended to be statistically valid. Its purpose was to solicit the opinions of individuals that attended the public forums or could not be interviewed regarding health care issues. Through July 2002, 253 surveys have been returned and analyzed. A copy of the survey is included at the end of this report as Appendix F.

1. Stakeholder Interview Findings

The interview questions contained in Appendix C served as a starting point for our discussions with the stakeholders. These questions were developed to guide the interview process and obtain responses on similar issues from the interviewees. Time was allowed in each interview for the stakeholders to discuss any related topics that were not covered during the meeting.

a. Current State of Health Care Delivery

In most rural communities, to talk about health care delivery, one must talk about hospitals. There are 14 hospitals in rural Nevada[3]. All but two are non-profit. In rural locales, there are approximately 258 acute care beds and approximately the same number of long term care beds. Seven rural hospitals provide long term care services to address community needs. These facilities' financial viability rests heavily on their long term care components.

About 92 percent of the State's long term care beds are paid for by Medicaid, some are county or self paid, and the balance are paid for under the Medicare program. Hospital revenues are primarily from Medicare (the rural percentage is higher than urban), Medicaid, and commercial insurance. The remainder of patients are private pay and uninsured (about the same percentage as urban areas). Seven hospitals receive local funding, through hospital district property taxes. Ad valorem tax rates are capped under State law. Within the broad cap, county operating limits are also capped. Hospital tax rates, while not specifically capped, compete with other community needs within the capped structure.

With a large and growing proportion of the elderly segment in rural communities, stakeholders expressed concern about the capacity and financing of inpatient long term care and its facilities. Rural communities will not likely be able to obtain the resources required to support both inpatient needs and programs that foster independent living. Facilities that care for individuals with dementia or Alzheimer's disease are so limited that individuals with these conditions often must be placed in facilities out of state.

The interviewees reported that changes that have been helpful to rural hospitals include designation as critical access facilities (allows some staffing flexibility and

[3] Later in our gap analyses we consider only 13 of these hospitals. Boulder City Hospital in Clark County is excluded from the gap analyses because its coverage area does not affect rural/frontier residents as defined in Appendix D.

ensures higher cost-based reimbursement), disproportionate share payments, modified Medicaid cost-based reimbursement for long term care, and the development of designated rural health clinics and federally qualified health centers (FQHCs).

Except for limited services for inpatients being discharged from hospitals, rural areas lack comprehensive case management services. Given the geographic distances involved, and the unavailability of specialty services, residents in need of care face challenges in locating and coordinating the services that they require.

In rural settings, EMS rely heavily on volunteers. Simply recruiting and maintaining sufficient numbers of trained people challenges communities. In addition, funding communication, transportation, and clinical equipment burdens local budgets, especially in times of economic downturn. One result is a patchwork of radio and telephone equipment, which at best limits communication between EMS across jurisdictional lines and, at worst, fails altogether. While far from optimal under any circumstances, the inadequacy of the rural emergency provider network EMS, law enforcement, and hospitals) to communicate is of special concern in the face of biohazards or terrorism.

Another characteristic of the rural health care delivery system that was repeatedly noted by stakeholders is the very limited access to behavioral health care and substance abuse services for both in and outpatients. Not only is local access limited, but transportation to urban services for those in acute need is problematic for hospitals, local law enforcement, and EMS.

In many rural areas, the only mental health and substance abuse services are available through DMHDS, although some services are provided to children through the Division of Child and Family Services. DMHDS facilities offer outpatient mental health services, therapy, service coordination, independent living programs, psycho/social rehabilitation, medication clinics, and emergency services 24 hours/day, seven

days/week. The clinics provide some alcohol/substance abuse treatment, but try not to overlap services that are available through the Bureau of Alcohol and Drug Abuse and their contractors, both local and regional. At most locations, there is a waiting list for services, but efforts are underway to eliminate them. All clinics offer a sliding fee payment schedule.

The waiting lists to obtain behavioral health and substance abuse services are due, in large part, to the difficulty recruiting and retaining qualified professionals to work in rural settings. DMHDS has serious staffing shortages in rural communities. At any one time, the Division has 10 to 15 vacancies. Over the last two years, DMHDS managers have interviewed well over 100 people for positions within the Division.

There is only one FQHC in rural Nevada, the Nevada Health Centers, INC (NVHC). NVHC has 14 clinic locations in the State; 10 are in the rural communities of Amargosa Valley, Austin, Beatty, Carlin, Crescent Valley, Eureka, Gerlach, Jackpot, Carson City, and West Wendover. Other NVHC sites are in Las Vegas. The other FQHC in Nevada, Health Access Washoe County, has two Reno locations. The facilities offer primary care, some specialty care, and generally have pharmacies on site. Access to dental care is a major issue, and several incentives that address it are being developed. Sliding fee payment schedules are available to individuals that are not covered by private insurance, Medicaid, or Medicare. NVHC also has a mobile mammography van.

Community health nursing clinics are located in 19 communities; 17 are staffed on a full time basis and two are utilized by community health nurses who travel from other clinics. The Bureau of Community Health employs 27 community health nurses and contracts with seven other nurses. The community health nurses serve the majority of rural areas. However, in several rural communities, they are often asked to work beyond their funded duties and provide direct health care services to local residents, particularly the elderly. This happens when there are no other providers in the town.

Numerous interviewees identified perceived service gaps, access, or other limitations in rural health care. These included, but are not limited to:

- Insufficient number of primary care physicians, nurses, and dental providers
- Insufficient or no inpatient care, specialty care, hospice services, mental health services, community based long term care services, social services, and transportation
- Limited providers that accept Medicaid or Medicare reimbursement

It must be noted that even where health care infrastructure is in place, facilities frequently are limited in the services they can provide because of their inability to recruit and retain a sufficient number of health care professionals and support staff.

There are currently 26,420 Native Americans residing in Nevada; approximately 17,000 reside in urban areas. They are part of 28 tribes, bands, colonies, or communities. Nineteen tribes are federally recognized.

IHS is responsible for providing health care services to all American Indians and Alaska Natives. It currently provides services to 1.5 million individuals who are part of 557 federally recognized tribes in 35 states. There is no full-service 24 hour a day, seven days per week IHS hospital in Nevada. For non-emergency inpatient care, Native Americans must travel to Phoenix or their home state facility, if they are from a non-Nevada tribe.

As part of the Phoenix area office of IHS, there are three service units in Nevada. These units are in Schurz, Owyhee, and Elko and oversee clinics or health centers located in Battle Mountain, Duckwater, Elko, Ely, Fallon, Gardnerville, Las Vegas, McDermitt, Moapa, Owyhee, Pyramid Lake, Reno, Walker River, and Yerington. Inpatient services were available in Owyhee, but the hospital facility is currently being used as an outpatient clinic.

To the extent that resources are available, American Indians and Alaska Natives served by IHS receive preventive, primary medical care (hospital and ambulatory),

community health, substance abuse, and rehabilitation services. However, in Nevada there has consistently been inadequate resources and funding for tribal facilities. The Nevada facilities must compete with Arizona and Utah for limited federal funding. Currently, about $500 in IHS funding is allocated annually for each Native American in Nevada. Other than individuals who qualify for Medicaid, no State funds provide health care services for Native Americans in Nevada. All funding comes from the federal government and the tribes.

The health status of Native Americans in Nevada is worse than the average Nevadan. Issues that have been identified include:

- Poor nutrition, coupled with unsafe water supplies and inadequate waste disposal facilities, have resulted in a greater incidence of illness among Native Americans.
- Other major health concerns include maternal and child health needs, otitis media, and problems associated with aging. Heart disease, alcoholism, mental illness, diabetes, and accidents are also serious problems for Native Americans.
- Many reservations and Indian communities are located in isolated areas where impassable roads and populations spread out over miles create challenges to providing quality health care.

All of the issues (e.g., manpower shortages, poor transportation, limited technology, and little preventive care) described in this report also affect Native Americans in Nevada. During the meeting with Native American representatives, the following suggestions were made to improve health care for all residents of rural Nevada:

- Work with State representatives, Tribal officials, and legislators to address the needs of Native Americans in Nevada, improve funding allocations and service delivery by IHS, and explore State funding and resource opportunities for tribes
- Explore ways to allow all rural residents to access health care at any facility and from any provider
- Obtain reimbursement from DHR for Medicaid-eligible tribal members that receive services at tribal clinics
- Determine how to provide health care services for non-tribal members that reside on reservations

- Resolve liability issues for non-tribal ambulances to travel on tribal lands and care for Native American residents
- Improve funding for behavioral health services and substance abuse treatment

b. Significant Health Care Issues

The most significant health care issue that was identified by the interviewees was poor health care access because of insufficient numbers of health care professionals. This included physicians (primary and specialty care), nurses, dentists, psychiatrists, behavioral health and substance abuse professionals, pharmacists, certified nurses aides, laboratory and radiology technicians, and medical coders and billers.

All fourth year family medicine students and second year residents trained at the University of Nevada Medical School must spend four weeks in a rural community. This program has been a requirement for the last 10 or 11 years. Nevada applicants must fill a total of 46 of the 52 medical school positions.

Information provided by the ORH shows that there are currently 193 residents training in Nevada; 130 are in Las Vegas and 63 are in Reno. A total of 81 are studying internal medicine, 37 pediatrics, 30 family practice, 23 general surgery, 12 OB/GYN, and 10 psychiatry. It is estimated that 50 percent will remain in the State to practice after their training is completed, although most will likely work in Clark or Washoe counties.

According to the federal Health Resources and Services Administration (HRSA), there are 786 nurses for every 100,000 citizens in the United States. In Nevada, there are 520. This ranking is the lowest in the nation. The average nurse vacancy rate in Nevada hospitals is 14 percent, although some hospitals have a vacancy rate as high as 30 percent. A crisis is considered to be 9 percent. Nevada also has the lowest proportion of pharmacists to citizens in the nation.

In 2001, AB 378 was passed; it ordered the University and Community College System of Nevada (UCCSN) to develop a plan with cost estimates for doubling the number of nursing school slots in the State. The plan spans four years and is estimated at at least $16M. This plan passed the Board of Regents.

Nursing programs are currently offered at UNLV, UNR (both BS), Truckee Meadows Community College, Western Community College (Carson City), Great Basin College (Elko – AA and BS), and Community College of Southern Nevada (Las Vegas). UNR also offers a 15-month nursing program for individuals who already possess a Bachelor's degree in related fields. Nevada State College in Henderson will have a nursing program beginning September 2002. 279 total slots are available now. Currently 100 nursing school applicants are turned away in Nevada because there are not enough slots. All programs have on-line capabilities for non-clinical courses. The technology for distance learning is in place in many rural communities. Barriers to its use include faculty, scheduling classes to accommodate working students, and boundary or "turf" issues within the college system.

Nevada has an aging population, particularly in rural areas. There are and will likely continue to be challenges in obtaining sufficient pharmacists and providers of long term care services (as demand for these services increases with a person's age).

One reason suggested for the workforce crisis is that the number of providers has not changed in the last 10 years, but population and demand have increased greatly. From 1990 to 1999, Nevada's population grew by 50.6 percent. This represents the fastest rate of growth of any state during the same time period and five times the population growth rate for the entire nation. Population growth has not been limited to the State's urban counties. Indeed, 11 of the State's 15 rural and frontier counties posted double digit percentage increases in population during the past decade. While urban counties in Nevada will experience the greatest growth in absolute

numbers, the population of rural and frontier Nevada is projected to grow at a faster rate (28.6 percent) than urban Nevada.

In addition to rapid population growth, population aging is a significant demographic influence on health and health care services. The State Demographer projects that the number of Nevadans age 65 years and older will increase by approximately 78 percent over the next 10 years.

Several of the interviewees were critical of the Nevada state boards that license physicians and dentists. Licensing requirements are too stringent and a lack of reciprocity with other states hinder the State's ability to attract physicians to Nevada. Some individuals felt that the Boards protect State physicians and dentists by restricting entry to other practitioners.

Besides an insufficient number of providers, the providers that do reside in rural Nevada are often overworked because there are no providers to relieve them. On-call coverage or collegial interaction is not available, and providers have little time to obtain continuing education/training.

Interviewees reported that there is little State financial support for health care in rural communities. After funding is distributed to Las Vegas and Reno, only 5 to 10 percent remains for rural counties. Several individuals stated that health care can not exist on its own in rural areas; federal, state, county, and patient financial support is vital.

Generally speaking, rural hospitals must satisfy the same State and federal regulatory and compliance requirements as urban hospitals. They must also maintain adequate physical plant, infrastructure, and management capabilities to remain viable. Reimbursement is often inadequate and there is a larger number of uninsured in rural communities. Over the last several years, some rural hospitals have faced ownership changes.

Another problem reported is the lack of good transportation services. Because of limited health care providers (particularly specialists) in rural communities, rural residents must often travel great distances to obtain care. For example, the mileage from communities that have rural hospitals to the nearest urban center ranges from 21 to 283 miles, and averages 115 miles. Individuals that have limited income, are ill, or of advanced age, often have difficulty driving themselves to doctors' appointments. Some public/community transportation is available, but only sporadically.

A major concern expressed by the stakeholders is the distance women must travel for prenatal care and to deliver babies. Currently, obstetrical services are only available in Boulder City, Carson City, Elko, Ely, Fallon, Las Vegas, Reno, and Winnemucca.

EMS are inadequate in most rural communities. Although capital equipment is generally available, it can be old and unreliable. Neighboring counties often do not have the same telecommunications systems and have difficulty communicating with each other. Even within a community, the hospital, providers, and EMS personnel are often unable to communicate among themselves because of county topography or aging radio and telephone equipment. A recent needs assessment completed by EMS agencies for the ORH found that 8 of 26 responding agencies cited upgrading communication equipment as one of their top three priorities.

The time it takes to transport injured or ill persons to trauma centers by ground is lengthy. It threatens the health of the patient and takes staff and vehicles out of the community for extended periods. Air transportation is limited and costly. UNR's ORH received a grant to establish an EMS training site in Elko in conjunction with Great Basin College. It will provide initial and ongoing training.

c. Suggestions for Improvement from Interviewees

Two of the interview questions asked the interviewees to make suggestions for improvement. These questions were "What still needs to be done?" and "If resources were not an issue, what would you do to improve health care in your community/county?". The issue that most individuals addressed was how to solve the health care workforce problem.

To attract and keep providers in rural Nevada, students must be made aware of the benefits of a health care profession as early as high school. Physicians and other health care staff could participate in career days, students could tour hospitals and clinics, and part time jobs could be created. Scholarships and other education supports could be provided to individuals who would agree to return to rural areas after their schooling/training is completed.

Other suggestions for resolving the health care workforce shortage included (Please note that some of the following suggestions are already in place or may be in the process of being implemented.):

- Develop incentives to practice in rural areas
- Award Millennium Scholarship funds to individuals pursuing health care professions
- Implement licensing requirements that support providers placement in rural communities
- Support the rural practice environment (on-call arrangements, on-going training, telemedicine, loan forgiveness, scope of practice expansions, etc.)
- Develop compressed video training to offer health care professional education in five to eight centers around the State for RNs, nurse practitioners, midwives, x-ray and laboratory technicians, respiratory and physical therapists, medical records specialists, medical billers, and EMS practitioners
- Ensure realistic rural reimbursement for public programs, such as Medicaid, Nevada Check-Up, and disproportionate share
- Develop transferable retirement systems between hospitals
- Provide good employee benefits, including health care

- Expand Medicaid state plan to allow social workers and dental hygienists to be paid for delivering services
- Develop mobile dental and medical capabilities

d. State Level Health Care Responsibilities

Other interviewees said that the State must determine the extent of its health care responsibilities. The Legislature should guarantee a level of service to its residents, and if they wish, the counties can enhance this level. According to a recent study completed by the Centers for Medicare and Medicaid Services (CMS), in 1998 Nevada's average spending for health care fell at least 15 percent below the national average.

Areas that the interviewees thought that the State should help fund included:

- EMS infrastructure, equipment, and communication capabilities
- Development/expansion of rural health centers for delivery of physical and mental health care services and substance abuse prevention/treatment
- Service coordination infrastructure to ensure comprehensive access to care (no-wrong-door)
- Expansion of telemedicine capabilities
- Health care transportation systems
- Mobile vans for delivering medical and dental services
- Development of a minority health office
- Funding of a regional behavioral health center in Elko

Interviewees also stressed the need for improved OB services. Suggestions included development of a rural maternity transportation system (for prenatal care and delivery), improved training for rural providers on prenatal care, access to remote monitoring equipment, and development of parenting, nutrition, and pregnancy warning signs training for expectant mothers and fathers.

Another area of importance to the individuals we interviewed was the development of preventive health initiatives. As the statistics included in Appendices G1 to G15 indicate, the health of Nevada's citizens requires significant interventions/improvement. The funds spent on preventive health initiatives will result in improved health status and decreased medical costs for Nevadans. Suggestions included:

- Developing/enhancing programs for smoking cessation, suicide prevention, and preventing school drop-outs, teen pregnancies, and drug/alcohol abuse
- Expanding the community health infrastructure to increase care options for rural residents
- Designing an effective statewide public health campaign to address the need for good nutrition and fitness

e. Other Suggestions

This final group of suggestions does not fit into any of the previous categories. However, the Task Force and its consultants thought they should be included in this document because of their importance to the stakeholders:

- Work with tribal representatives to ensure that all rural residents can receive health care services at tribal clinics and vice versa
- Utilize all remaining tobacco settlement dollars to fund health care initiatives
- Develop full-service public health facilities in Carson City, Elko, and Fallon
- Expand assisted living facilities to increase the number of beds for patients with mental illness and dementia
- Pilot the use of multi-disciplinary Program of Assertive Community Treatment (PACT) teams and family training for the care of the seriously mentally ill
- Improve services to Native Americans, including covered services, staffing levels, clinic locations, and joint use of resources
- Improve prescription drug coverage and increase number of pharmacies
- Develop multi-specialty clinics in key rural locations, such as Beatty, Caliente, Elko, Ely, Eureka, Tonopah, West Wendover, and Winnemucca
- Implement standardized training and communication system for EMS

- Expand services available to Hispanic residents, including primary care, dental care, senior services, prenatal care, and counseling on marriage and domestic violence, delivered in a culturally competent manner
- Improve reimbursement for home health care services
- Improve social service infrastructure for home bound and disabled
- Develop and implement modernization plan for rural facilities
- Revise compliance and competition laws so that hospitals can work together

2. Community Stakeholder Meetings

This section summarizes the issues and recommendations identified by the community stakeholders during the rural meetings. A more complete discussion of the results of each meeting is included in the Community Profiles in Chapter V. Health statistics for each rural county compiled by the State Health Division are included in Appendices G1 to G15.

Because some of the issues and recommendations that the community stakeholders raised have already been discussed earlier in this chapter, they are not repeated here. This section focuses on those issues that were unique to the community stakeholder sessions.

The number one issue that was heard during the community stakeholder meetings was lack of access to needed medical care. Access problems affect the under and uninsured, individuals on Medicaid, women (including pregnant women), adolescents, Veterans, and adults not yet eligible for Medicare. Individuals with limited income are often not able to purchase health insurance. If they are employed, coverage for their dependents is frequently unaffordable. Because county employees attended most of the community stakeholder meetings, we asked them about the cost of insuring their dependents. Reported premiums ranged from $400 to over $900 per month; increases up to 40 percent over the previous year were reported. Children can often be covered by the Nevada Check-Up program, but frequently the spouse remains

uninsured. As discussed previously, individuals covered by Medicaid or the Veterans Administration often have a very difficult time finding providers to provide needed medical care within reasonable travel distances.

Nevada counties have indigent care programs that will pay for limited health care services for county residents without the resources to do so. As economic conditions worsen in rural communities, county costs are often exceeding their budgets.

Most counties reported a large influx of Hispanic individuals to rural areas over the last several years. Typically, these individuals have limited incomes and are often uninsured. Few communities have rural health clinics to provide care for those on limited income, and a lack of interpreters present an additional barrier to obtaining needed medical care.

As one might expect, the recommendations varied from community to community (see the Community Profiles for county-specific recommendations). However, there were common suggestions presented during these meetings. They included:

- The State must have a long term fiscal commitment to health. Health care dollars need to follow the patients. Funding can not be based on population; it must be based on need.
- There should be a one-stop gateway to care; primary care and behavioral health care must be integrated, and care coordinators must be available to help patients navigate the system.
- State agency administration in rural communities should be consolidated into a single location to allow the sharing of administrative resources.
- Rural communities need grant writing assistance to bring available resources to the area.
- The State should look at its pool of retired health care professionals and develop innovative staffing solutions.
- To attract health care professionals to rural communities, housing, malpractice insurance, and other benefits should be provided.
- Mobile vans are needed in areas that do not have health care providers.

- Hospitals need modern equipment to provide basic diagnostic care (x-rays, CT scans, ultrasounds, blood work, etc.).
- All Nevada residents should be able to access care at any Nevada facility (including Native Americans, Medicaid and Medicare recipients, and Veterans).
- All rural county medical and social services staff should be able to assist in the Medicaid application process. There should be electronic submission and eligibility determination capabilities. Some documentation flexibility is needed for transient/homeless applicants.
- Nevada needs additional J1 Visa physician slots; the application process needs to be streamlined.
- State Medicaid officials should work with contiguous states to ensure that out-of-state providers can be paid for treating Nevada Medicaid recipients.

3. Public Forum Findings

This section summarizes the issues and recommendations identified by the community residents during the rural meetings. A more complete discussion of the results of each meeting is included in the Community Profiles in Chapter V.

The issues identified by residents of rural communities mirror those identified by the stakeholders at the State and local levels. Individuals who live in rural areas who need health care must travel great distances for most services, rely on local providers who often are over-stretched and have limited equipment and resources, or go without. There is a lack of primary care physicians, specialists (particularly obstetricians and optometrists), dentists, mental health care professionals, and drug/alcohol abuse and domestic violence counselors.

Medicare and Medicaid recipients often cannot find a medical or dental provider who will see them. It was reported that many rural dentists and optometrists will not see patients without receiving payments in advance of treatment.

For individuals who have health insurance (including State employees), provider networks are limited or non-existent in rural communities. Because the cost of dependent health insurance is so high, many dependents go without coverage. There

are few or no health care options for individuals with special needs, Veterans, and those who are uninsured and on a limited income.

Community residents generally have great respect for their local health care professionals. However, they think that most rural facilities are understaffed and do not possess the necessary infrastructure to deliver quality health care. And at a time when most rural communities are trying to attract new industries to their towns, they know that this is impossible without a good health care system.

The recommendations of community residents also often mirrored the local and State-level stakeholders. Their needs/recommendations included:

- Implement public health departments in each rural county
- Build medical/dental clinics for low income residents in communities that do not already have them
- Build a hospital with ER/urgent care capabilities in Pahrump
- Expand the Nevada Check-Up program to cover adults of eligible children
- Develop a low-cost health care insurance product
- Through implementation of "no-wrong-door", facilitate coordination/communication among federal, State, and local agencies
- Expand scope of practice for physician assistants, nurse practitioners, community health nurses, EMTs, dental hygienists, and pharmacists
- Use tobacco settlement funds to purchase hospital and ambulance equipment and emergency alert capabilities (lifelines) for seniors
- Build additional assisted living facilities
- Improve testing and treatment capabilities of local hospitals
- Enhance medical workforce/telemedicine capabilities in rural communities to include primary care physicians, surgeons, radiologists, cardiologists, behavioral health practitioners, substance abuse professionals, physical therapists, podiatrists, optometrists, oncologists, neurologists, and pharmacists
- Improve respite care, family planning, transportation, elderly services, home health care, dialysis, and care for individuals with chronic health conditions

- Implement preventive health programs, including smoking prevention/cessation, nutrition, exercise, as well as programs to treat alcohol/drug abuse, domestic violence, and gambling addictions
- Work with hotel industry to offer reduced rates to individuals who must travel for medical care
- Work with community representatives to develop social service resource guides
- Expand eligibility for the Senior Rx Program
- Broaden the role of the health care ombudsperson position in the Governor's office to deal with the full range of health care issues; advertise this service and provide a toll-free telephone number for Nevada residents

4. Consumer Survey Findings

The consulting team developed a consumer survey for distribution to interested consumers. It was not designed or administered to be statistically valid. Its purpose was to solicit the opinions of individuals that attended the public forums or could not be interviewed regarding health care issues. As such, respondents were individuals who cared deeply about the health care system in Nevada, who were able to attend one of the stakeholder meetings or public forums, or received a survey from a meeting or forum attendee. It should be noted, as indicated in the following section, that the survey respondents did not represent a true cross section of rural Nevada. As a result, the following percentages should be considered in conjunction with the balance of information presented in this report.

The survey was meant to gain insight on the availability and cost of health care. It, like the stakeholder interviews and meetings and the public forums, was another means of gathering information to guide the economic modeling in later phases of the project.

The survey was distributed at the stakeholder meetings and public forums. As of July 2002, 253 surveys have been returned and analyzed. A copy of the survey is attached as Appendix F.

a. Source of Health Insurance

There were 217 respondents to the survey question asking residents about their primary source of health insurance. The consumer survey results showed that 67 percent of respondents (146 respondents) primarily receive their health insurance through their employer, 10 percent (22 respondents) privately purchase insurance, and eight percent (18 respondents) receive insurance through publicly funded programs, such as Medicaid or Medicare. A total of 11 percent (24 respondents) do not have insurance, and the remaining three percent (7 respondents) receive insurance from a combination of employer sponsored, privately purchased, or publicly funded sources. These results show that the sample of respondents was significantly different from the population overall. For example, while the rate of employer-based insurance is high, the rate of Medicaid and Medicare based coverage is less than 30 percent of its current rate in Nevada.

b. Level of Satisfaction with Cost of Health Care Services

This question addressed satisfaction with the cost of medical care, mental health services, home health care, and long term care services. Since not every respondent accessed each type of service, the number of responses for each sub-question varied for this question and most questions that follow.

Of the 208 respondents for which this service was applicable, 58 percent (120 respondents) were either “very satisfied” or “satisfied” with the amount they paid for medical care. However, of the 98 mental health respondents, 55 percent (54 respondents) were “not satisfied” with the amount they paid for mental health services. Of the 75 home health care respondents, 53 percent (40 respondents) were not satisfied with the amount they paid for home health care. 80 individuals responded to the long term care services question. 59 percent (47 respondents) were not satisfied with the amount they paid for long term care.

c. Level of Satisfaction with Time it Takes to Obtain an Appointment

Of the 227 respondents for whom this service was applicable, 66 percent (150 respondents) were either "very satisfied" or "satisfied" with the number of days needed to obtain an appointment for medical care. Likewise, of 206 total respondents for dental care, almost 61 percent (126 respondents) indicated their satisfaction with the number of days it took to obtain a dental appointment. However, of 92 respondents for mental health services, 59 percent (54 respondents) were "not satisfied" with the time necessary to obtain an appointment. Of 73 long term care respondents, 40 percent (29 respondents) were "not satisfied" with the number of days it took to obtain long term care services.

d. Satisfaction with Distance Traveled to Obtain Health Care Services

With regards to the distance they traveled to obtain medical care, a total of 217 individuals responded. Just under 60 percent (124 respondents) indicated they were either "very satisfied" or "satisfied" with the distance traveled for medical care. Likewise, of the 202 respondents for which this service is applicable, just over 60 percent (122 respondents) were either "very satisfied" or "satisfied" with how far they traveled for dental care. Of the 94 individuals that answered the mental health services question, 52 percent (49 respondents) were "not satisfied" with the distance traveled for mental health services. Of the 70 long term care service respondents, 63 percent (44 respondents) were "not satisfied" with the distance traveled for long term care services.

e. Distance to Obtain Health Care Services

Of a total of 192 respondents, 46 percent (88 respondents) traveled less than 30 minutes to obtain medical care. 43 three percent (80 of 188 respondents) traveled less than 30 minutes to obtain dental care, although a third, 33 percent (62 respondents), traveled one or more hours. Almost 25 percent of 182 respondents (44 respondents)

traveled one or more hours to obtain mental health services; 59 percent (108 respondents) traveled less than 30 minutes.

f. Importance of Having Health Care Services in Local Community

As expected, most of the respondents to this question indicated that each health care service is "very important" to have in their local community. Almost 79 percent (126 of 160 respondents) thought that it was "very important" to have medical care available to them, while just over three percent (5 respondents) indicated that it was "not important". Similarly, 72 percent (108 of 150 respondents) indicated that it was "very important" to have dental care, and 23 percent (35 respondents) thought it was "important." Of 164 respondents for mental health services, 47 percent (77 respondents) thought it was "very important" to have access to mental health services in their community and 34 percent (55 respondents) thought it was "important". Approximately 45 percent of the respondents (76 of 170 respondents) indicated it was "very important" to have home health care in their community, compared with 29 percent (50 respondents) that thought it was "not important". Of 124 respondents for long term care services, 73 percent of respondents (90 respondents) thought that the availability of long term care services was "very important" or "important".

g. Satisfaction with Availability of Health Care Services

When asked how satisfied they were with the availability of various health care services in their local community, most responded they were "not satisfied". The only service for which this was not the case was medical care; of a total of 114 respondents, 49 percent (56 respondents) were "not satisfied", while 51 percent (58 respondents) were either "very satisfied" or "satisfied". For the remaining health care services, 58 percent were "not satisfied" with the availability of dental care (55 of 95 respondents); 69 percent were "not satisfied" with the availability of mental health services (45 of 65 respondents); 60 percent were "not satisfied" with the availability of home health care

(35 of 58 respondents); and 70 percent were "not satisfied" with the availability of long term care (32 of 46 respondents). For mental health services, eight percent (5 of 65 respondents) were "very satisfied" with its availability. Only 11 percent (5 of 46 respondents) were "very satisfied" with the availability of long term care services.

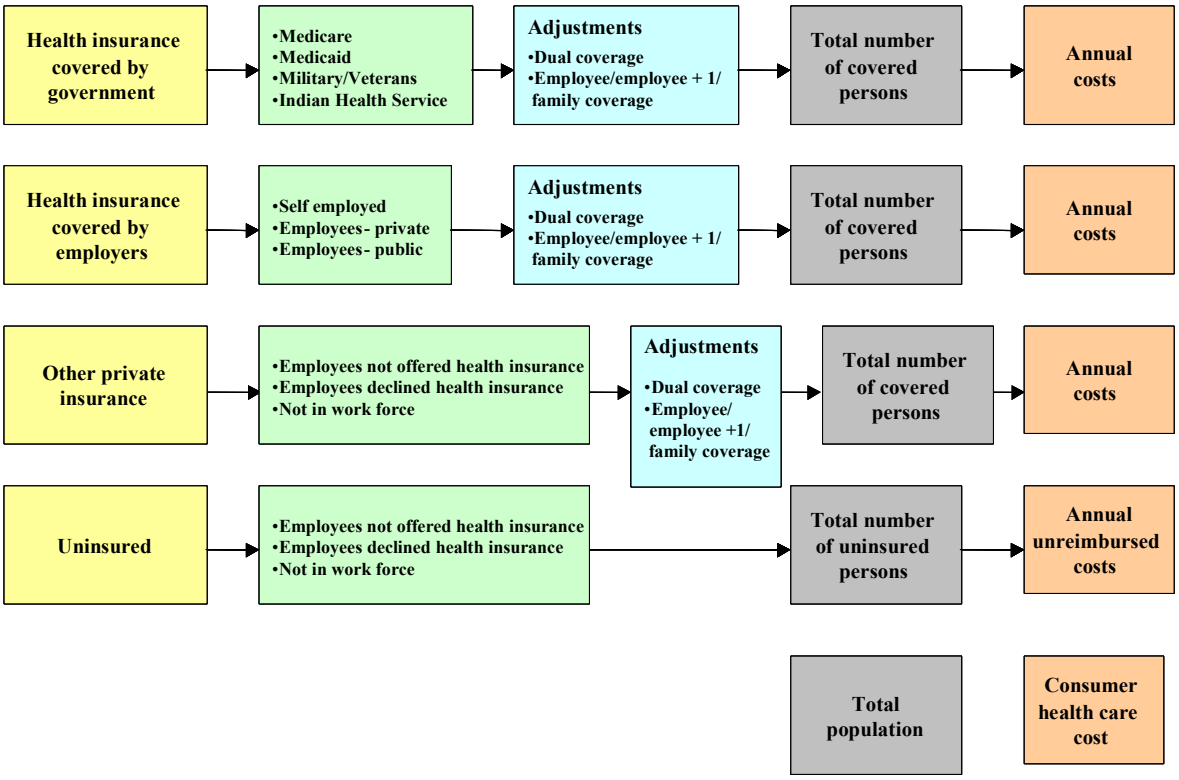
B. HEALTH CARE FINANCE AND INSURANCE COVERAGE IN NEVADA – THE BASE CASE

1. Introduction

The base case economic model describes the dynamics of health insurance coverage, health expenditures and revenues, and employment factors in areas that are of interest in rural/frontier Nevada.[4] Creating a model to describe current access to health care coverage establishes the benchmark for people covered, the source of their coverage, and the costs of care. This benchmark serves as a framework for examining different methods to improve access to health care coverage in this report. Figure 1 describes the current health care environment and provides a schematic of how costs are estimated.

[4] See Appendix D for rural and frontier counties.

Figure 1
Current Cost Estimation Components



This section provides a detailed description of the status-quo model in 2000. Estimates are also included for each of the categories identified in Figure 1. We discuss our data sources and the assumptions behind each calculation. The numerical results of the model are summarized in Appendix H. Appendix H, Tables 1 and 2, present estimates of population groups for 2000 for all of Nevada and rural/frontier Nevada, respectively. Appendix H, Tables 1a and 2a explain the costs of care for each group, by the same groupings as Tables 1 and 2. Again, each of these sets of results provides a status-quo of what currently exists, barring implementation of any of the

recommendations proposed in this report. The balance of the discussion in this section confines itself to rural/frontier Nevada as specified in Appendix D.

2. Components of the Model

The first step in developing the model was to collect necessary data. Data were collected at the State level and county level, when available. When county level data were unavailable, State level data were desegregated to rural/frontier levels based on population in those areas. The relevant categories for which data were collected are:

- Insured individuals and their source of coverage:
- Government-sponsored
- Medicaid
- Medicare
- Military/Veteran coverage
- Employer-based, including government employees
- Other private insurance
- Uninsured individuals in the State
- Non-IHS
- IHS only

Each of these classifications was split into sub-categories to identify characteristics such as employment status, industrial sector of employment, age, geographic area of residence, etc. Once the number of individuals in each sub-category was determined, information on health expenditures (premiums) for each person in each category was gathered. To determine health expenditures by category, the number of individuals in each group was multiplied by the average health expenditure per person. Finally, the expenditures per category were summed to obtain consumer spending on health care for Nevada, as well as for rural/frontier Nevada (Appendix H, Tables 1a and 2a).

The base case includes patients specifically receiving care. Thus, estimated health care expenditures in the base case do not include funding sources such as grants, subsidies (e.g., direct payments to hospitals or clinics from local and county governments, for unexpected expenditures), expenditures for recruiting and training health care professionals, or out-of-pocket (e.g., co-payments) expenditures from insured individuals.

All of these components represent the status quo in Nevada in 2000 and what to expect in the future, barring implementation of any of the recommendations proposed in this report. Tables 2 and 2a in Appendix H summarize the total estimated insured and uninsured populations and the estimated consumer health care expenditures for 2000, for rural/frontier Nevada. The 2000 information is summarized for rural and frontier Nevada in the following figures. Figure 2 shows the consumer health care dollar expenditures in rural/frontier Nevada in 2000 by source of expenditure. Figure 3 shows the percent distribution of those dollars by source of expenditure. For example, from Figure 3, we see that 51 percent of consumer health care expenditures in rural/frontier Nevada are attributed to public/private employees. The second largest expenditures are attributed to Medicare recipients, at 26 percent.

Figure 2
Estimated Rural and Frontier Consumer Health Care Expenditures for the Insured and Uninsured Population, 2000 (thousands)

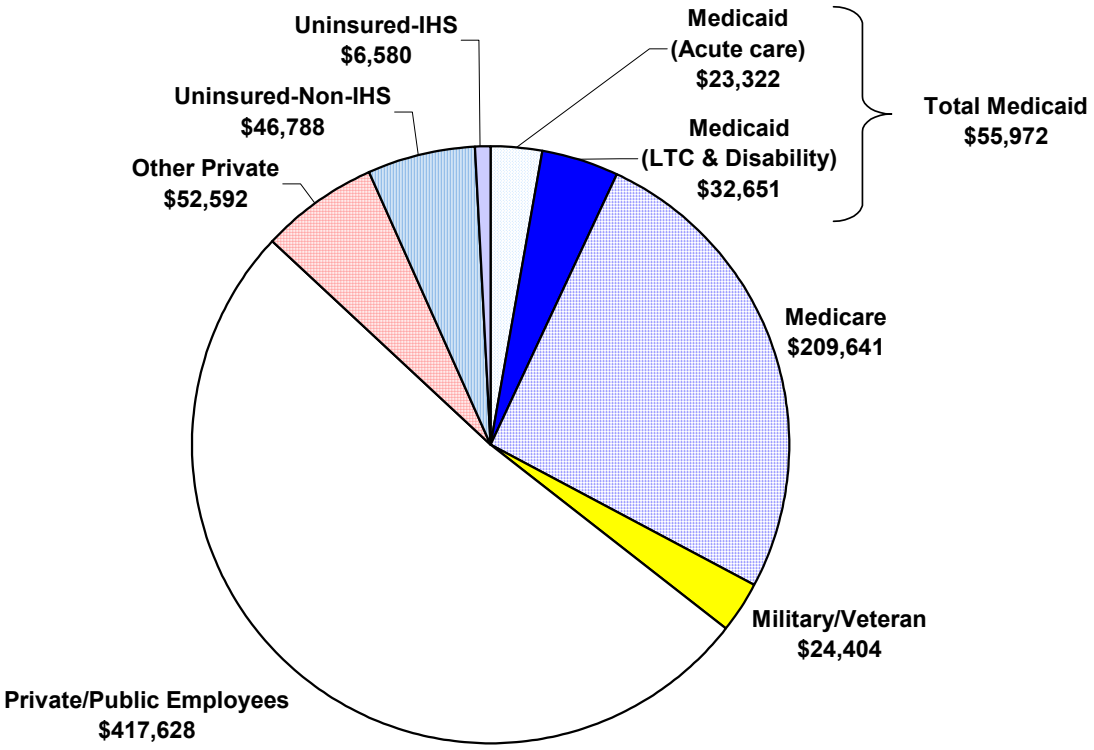
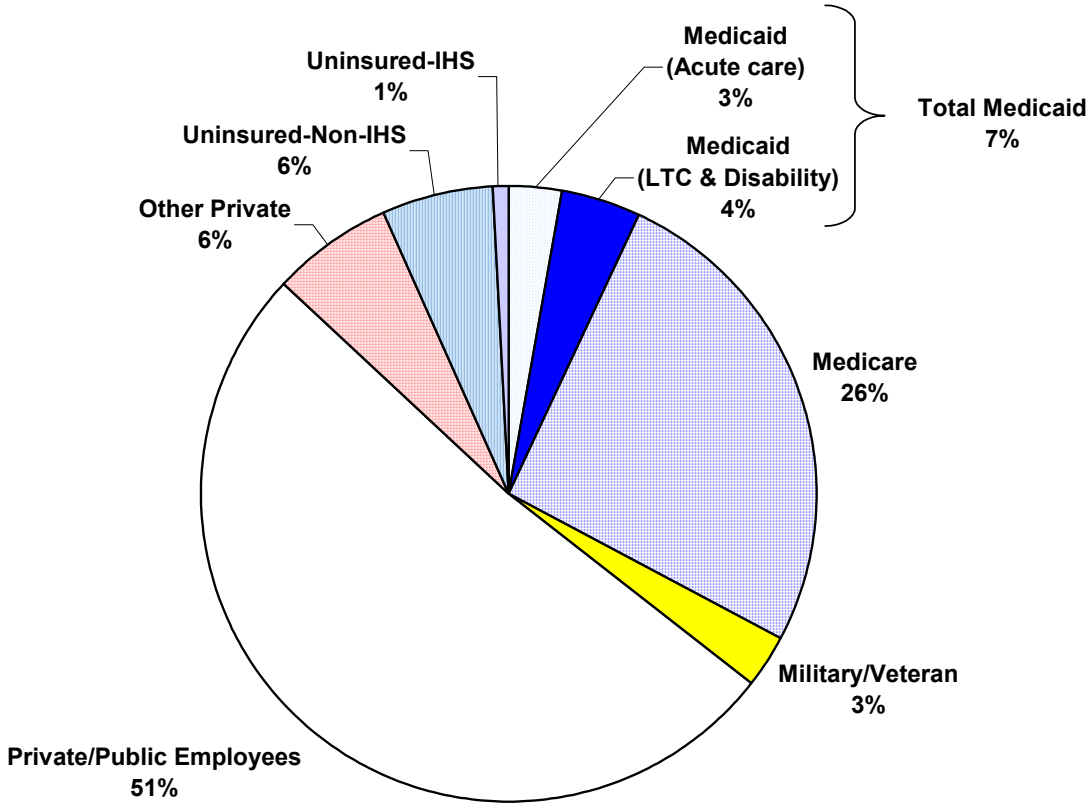


Figure 3
Share of Estimated Rural and Frontier Consumer Health Care Expenditures for the Insured and Uninsured Population, 2000



It is important to note that some of the categories of people that are segmented in the model are not mutually exclusive. For example, an individual receiving health care services from the Department of Veterans Affairs (VA) may also be working in the private sector and enrolled in employer-sponsored health insurance. The model attempts to address this situation whenever possible. We tried to obtain reliable data for all categories; however, in some instances this was not possible. Occasionally, the data did not exist, or its accuracy was questionable. In some cases, data were based on limited sample-size surveys. These numbers are generally accurate in relation to large populations over an extended time period. However, they can be less reliable as

the population size decreases. When the data did not exist or were unreliable, we used professional judgment to estimate coverage levels and/or expenditures. These estimates are based on past experience and support from the literature. The model also incorporates forecasts for these same categories of people into the years. Forecasts were obtained for the lowest population groupings available, (e.g., 0-18, 19-64, 65+ age populations). For subgroups where forecast data were unavailable (e.g., Military/Veteran), the same proportions of subgroup to total populations as 2000 were used. Insurance premiums and out-of-pocket health care expenditures were forecasted using the medical care index component of the Consumer Price Index (CPI). The remainder of this discussion will summarize the status quo as of 2000. It is the basis on which the strategic plan was developed.

a. The Insured

(1) Government-Sponsored Insurance

(a) Medicaid[5]

The total number of rural/frontier Nevadans covered by Medicaid was estimated to be 16,628 adults and children in 2000[6]. See Appendix H, Table 2. We also identified the population by age group: 0 to 18, 19 to 64, and 65 years and older. For children (0 to 18 years old), the estimated number of children enrolled in Medicaid was derived from CMS reports.[7] As of December 2000, 11,931 children were enrolled in Medicaid in rural/frontier Nevada.

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5 Data on Medicaid enrollees is being confirmed by Division of Health Care Financing and Policy personnel, and will be incorporated into the final report.

6 LECG Base Case Model

7 The State Children's Health Insurance Program Annual Enrollment Report, Attachment II, CMS; Medicaid Managed Care State Enrollment – December 31, 2000, CMS.

Along with the figures identified using the methodology above, the model incorporates Medicaid expenditure data for this population.[8] Data provided indicate that the average annual expenditures per eligible in 2000 were $1,172 for children, $2,439 for adults, and $1,260 for the Medicaid "wrap-around" for the elderly who are primarily covered by Medicare.[9] The total acute care Medicaid expenditures in rural/frontier Nevada for 2000 were an estimated $23,321,800. See Appendix H, Table 2a.

Medicaid costs for people with disabilities and for long term care total an estimated $32.6 million. These costs are isolated from other Medicaid costs in Figures 2 and 3, above, and in our discussions, since these two service categories are being addressed by other task force reports.

(b) Medicare

Estimates of the number of Medicare beneficiaries and their insurance status are complex because of dual insurance coverage. Because of this variable, we used an indirect method to derive estimates of the Medicare categories, based on work status, population demographics, IHS eligibility data, and joint Medicaid and Medicare eligibility information. See Appendix H, Table 2.

There were an estimated 35,812 Medicare beneficiaries in rural/frontier Nevada in 2000. See Appendix H, Table 2. This estimate was derived from CMS data.

To determine the number of IHS eligible Medicare enrollees, it was assumed that the ratio of all elderly (age 65 and over) enrollees (31,131) to total Medicare enrollees in rural/frontier Nevada (35,812) is the same as for the Medicare population as a whole. In other words, for each IHS eligible age 65 or older, there are a total of 1.150 IHS eligible

[8] The model does not incorporate Medicaid expenditures for the developmentally disabled and the blind. These populations are being studied by other AB 513 task forces.

[9] These averages include both HMO and FFS expenditures. The average expense for adults includes only adults in families with dependent children and also pregnant women.

Medicare beneficiaries. This method yields an estimated total of 1,070 IHS Medicare beneficiaries in Nevada and an estimated 629 in rural/frontier Nevada.

Medicare spending per capita for all enrollees in rural/frontier Nevada in 1999 was $5,625. This figure was adjusted by a medical CPI of 4.1 percent, to obtain an estimated 2000 per capita spending of $5,854.[10]

(c) Military/Veteran

This category includes people in military service and those receiving VA health insurance benefits. Census data were used to estimate these individuals. The model distinguishes between enlisted/veterans, spouses, and dependents receiving coverage. This population is also segmented by age group. The total number of Native Americans that serve in the armed forces is based on the weighted average of armed service personnel who are Native American in contiguous western states; these percentages are then applied to the IHS population in Nevada. Finally, this population is further segmented into rural/frontier Nevada based on regional (i.e., urban, rural, and frontier) weights. Expenditures per beneficiary were determined using data provided by the VA.[11] We estimate that 9,631 people in rural/frontier Nevada have military and veteran benefits as their primary source of health insurance, of which 1,133 are children. Consumer expenditures are estimated to be $24.4 million in 2000. See Appendix H, Tables 2 and 2a.

[10] "Aged – 1999 Fee-For-Service Enrollment, Reimbursement, Per Capita Cost (Monthly) and Demographic Factors for Hospital and Supplementary Medical Insurance Programs and County of Residence, Persons Aged 65 and Over," CMS.

[11] VA. "Distribution of VA Expenditures for Fiscal Year 1998." The 1998 expenditure per capita is adjusted by the medical care CPI to reflect the estimated cost for 2000.

(2) Employer-Based

The employed portion of the labor force[12] was categorized into 10 industry sectors[13] and by five different firm sizes[14] using national percentages from the 1999 Medical Expenditure Panel Survey (MEPS).[15] The total employed labor force by county was also allocated by industry sectors using data from the 2000 Bureau of Labor Statistics (BLS). [16]

Employer-based insurance is the primary source of coverage for rural/frontier Nevada residents, with 54 percent of residents being covered by an employer.[17] To understand the status quo of employer-based insurance one must know:

- The number of employees that are offered insurance (offer rate)[18]
- Which employees are eligible (usually full-time, not part-time employees)[19]
- How many eligible employees accept coverage (acceptance rate)[20]
- For how many dependents the employee is purchasing health insurance[21]

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[12] Nevada Department of Employment, Training & Rehabilitation, "State of Nevada 2000 Covered Employment Distributed by Month and County." Also BLS.

[13] Agriculture, fishing, and forestry; mining; construction; manufacturing; transportation, and public utilities; wholesale trade; retail trade; finance, insurance, and real estate; services; and miscellaneous. Definitions of each industry group are in Appendix I.

[14] The five firm sizes are 1-9 employees, 10-24 employees, 25-99 employees, 100-999 employees, and over 1,000 employees. Employers with 50 or fewer employees are classified as small group employers, and those with more than 50 employees are classified as large group employers (when determining which insurance premium is applicable).

[15] Agency for Healthcare Research and Quality (AHRQ), MEPS, "Percent of number of private-sector employees by firm size and selected characteristics: United States, 1999." Table I.B.1.a.

[16] BLS, "State and County Employment and Wages from Covered Employment," 2000.

[17] There is a national trend toward companies using more part-time employees, especially in the service sector, to minimize expenditures on health insurance coverage. To the extent that Nevada is following this national trend, the use of more part-time employees may be a contributor to a higher rate of uninsured employees.

[18] AHRQ, MEPS, Table I.B.2.

[19] AHRQ, MEPS, Table I.B.3.b.

[20] Percent of employees eligible for health insurance that are enrolled in health insurance at establishments that offer health insurance. AHRQ, MEPS, Table I.B.3.b.(1).(a).

To facilitate more detailed analysis, characteristics such as industrial sector,[22] firm size, and the geographic location of employees is valuable.

(a) Private-Sector and Government Employees

Although the components of the model relating to private-sector and government employees are separate, the methodology used to obtain relevant figures is similar.[23] The primary differences in the methodology concern firm size, industrial sector, and eligibility. Private-sector employers are grouped by five firm size categories, by 10 industrial sector classifications, and by three geographical regions. Employer size and industrial classification were not broken out for federal, state and local government employers.

For government employees, the number of individuals who were part-time versus full-time was estimated using private sector percentages. The offer rate was used to estimate the total number of individuals to whom health insurance coverage was offered.[24] Furthermore, since detailed eligibility and coverage acceptance data are not available for government employees, we assumed these rates are the same as the private sector.[25] Finally, for government employees, information obtained from community meetings indicates that Nevada-specific enrollment into family premium plans may be lower than that assumed in the model. However, we have no objective data on which to base an adjustment. For private-sector employers, the total number of full-time and part-time workers was estimated. Within each of these two classifications,

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21 Estimates for household factors were provided by Mercer Government Human Services Consulting.

22 Percentages for "offer", "eligible", "eligible and enrolled" by industrial sector are only available at the national level, so relative weights were assigned and applied to the overall percentage in order to obtain individual percentages by industrial sector for Nevada.

23 Except for military personnel and veterans, as discussed above.

24 Farber, Henry S. and Helen Levy. "Recent Trends in Employer-Sponsored Health Insurance Coverage: Are Bad Jobs Getting Worse?" Journal of Health Economics. 19(1): 93-119 (2000).

25 As discussed below, it was then determined whether they accepted coverage, the number of dependents covered, etc.

we determined how many were eligible and how many were not eligible for health insurance coverage. (For all of the employer-related categories outlined below, a geographic classification of urban, rural, or frontier was also assigned based on population concentrations by county).[26]

We estimate that 118,242 adults and 36,330 children are insured through government and private-sector employer-based insurance in rural/frontier Nevada. Consumer expenditure is estimated at $417.6 million in 2000. See Appendix H, Tables 2 and 2a.

(i) Eligible for Coverage

Although not reflected explicitly in the summary tables in Appendix H, the tallies of covered employees, their dependents, and their costs depend on several other sets of assumptions that are driven by the employees' eligibility for coverage and their choice to enroll in coverage.

(ii) Chose to enroll

If a worker chose to enroll, three types of coverage are defined: employee (single), employee + 1 (employee and spouse or employee and one dependent child), and family (employee and one spouse and dependent children). For employee + 1 coverage, we have estimated a factor of 1.4 for adults and 0.6 for children based on actuarial assumptions. For example, for every 100 enrolled employees, there will be 140 adults and 60 children enrolled in employer-based health insurance coverage. For family coverage, the actuarial factor is 3.25, meaning that there will be two adults and 1.25 children per enrolled employee who chooses family coverage. This allowed us to determine the number of employees, spouses, and dependents covered through employer-based programs. The most typical form of dual coverage is when a child with two working parents is covered by two different sources of employer-sponsored

[26] Please refer to Appendix D for a list of counties for the three geographic regions mentioned above.

insurance. Once these figures were estimated, average premium data were applied to determine total expenditures for employer-based health coverage.[27]

A worker's decision to enroll will be based on his or her perceived need for health insurance coverage in light of the required contribution amount. Small and large group premiums were used to calculate the current cost of employer-based programs.[28] Both premiums included adjustments by industry sector and geographic region.[29]

(iii) Chose not to enroll

If a worker was offered coverage by an employer but chose not to enroll, we estimated whether the individual received coverage through a spouse, was uninsured, enrolled in other private insurance, or was a Medicaid or IHS recipient. Since specific enrollment and expenditure data concerning employees who receive care elsewhere are not available, a process of elimination was used. For example, estimates such as the percentage of employees receiving coverage through a spouse, and the average amount spent on health care for/by uninsured persons (including those who were unemployed) were used. The model does not account for expenditures for these individuals in a separate "chose not to enroll" section. Rather, these individuals and their expenditures were captured elsewhere.

(iv) Not Eligible for Coverage

Similar to employees who choose not to enroll in employer-sponsored coverage, part-time and full-time employees who are not eligible for coverage were accounted for in other sections. These employees were either uninsured, enrolled in other private insurance, Medicaid or IHS recipients, or covered through a spouse. These categories

[27] Premium data were obtained from Mercer Government Human Services Consulting.

[28] Small group premium applies to employers with less than 50 employees, and large group premium applies to employers with more than 50 employees.

[29] Small group is defined as less than 50 employees, and large group refers to firms with 50 or more employees. Regional adjustments included calculating averages for the three regions cited earlier in this section: urban, rural, and frontier.

accounted for health expenditures relating to working individuals not eligible for coverage.

(3) Other Private Insurance

Another category outlined in the model includes individuals who purchased private insurance outside of employer-based programs. The total number of persons purchasing other private insurance in rural/frontier Nevada was estimated at 16,086 adults and 5,924 children. See Appendix H, Table 2.

Consumer expenditure in this category was calculated by multiplying the number of people by the average premium paid for insurance purchased in this manner.[30] The expenditure on other private insurance in rural/frontier Nevada was estimated to be $52.6 million dollars in 2000. See Appendix H, Table 2a.

(4) The Uninsured

Information on the number of uninsured, estimated to be 21.4 percent of the rural/frontier population, was primarily based on a combination of 2000 Census data, Medicaid data, and data from The Innova Group for Native Americans. The results indicate that 19,542 children and 41,845 adults are without insurance in rural/frontier Nevada. See Appendix H, Table 2 for more information on this population. The total uninsured population is derived by subtracting the estimated population for each category, i.e., Medicaid, Medicare, employer-based, from the total population for children and adults.

Since, by definition, these individuals do not pay premiums for health insurance, the relevant expenditure class is the amount spent on unreimbursed care, charity care, and other out-of-pocket care by the individual. Per capita costs are estimated by dividing the total amount spent by the number of individuals identified. Total

[30] No separate insurance premium data was available for other private insurance; therefore, the average of the small group insurance premium was used.

expenditures are estimated to be $53.4 million for the uninsured in rural/frontier Nevada in 2000. See Appendix H, Table 2a.

(a) IHS

In this analysis, Native Americans are counted as uninsured if IHS coverage is their only source of care. This decision is based on the fact that IHS is considered payer of last resort after all other payers; that is, IHS becomes the default safety net for uninsured Native Americans. When considering the various sources of insurance from which Native Americans receive coverage, we estimated that 5,142 Native Americans in rural/frontier Nevada would be covered by Medicaid, employer insurance, Medicare, private insurance, or by the military. Thus, the residual IHS population that is not covered by insurance is 4,874. See Appendix H, Table 2. The average spending per capita on these individuals was $1,350 in 2000.[31]

3. Base Case Summary

The base case economic model describes the dynamics of health insurance coverage, health expenditures and revenues, and employment factors in areas that are of interest in rural/frontier Nevada. Creating the base case to describe current access to health care coverage establishes the benchmark for people covered, the source of their coverage, and the majority of the costs of care.[32] This benchmark serves as a framework for examining different methods to improve access to health care coverage. The base case provides a detailed description of the status-quo in rural/frontier Nevada in 2000. For example:

[31] Data provided by Dr. Cliff Wiggins, Senior Operations Research Officer, Office of the Director, IHS, Department of Health and Human Services, Rockville, Maryland. This amount only reflects the average annual expenditures per capita incurred by the IHS health care facilities. However, some Native Americans also received health care services from other coverage sources, such as Medicaid, Medicare, and other private insurance. Expenses from other coverage are not included in the $1,350 figure.

- 22 percent of rural/frontier Nevadans receive health insurance from government-sponsored insurance (i.e., Medicaid, Medicare, and Military/Veteran), while 36 percent of insurance based health care expenditures can be attributed to the same group of Nevadans. See Appendix H, Table 2 and Figure 3.
- 54 percent of rural/frontier Nevadans receive health insurance from employer-based insurance (including government employees), and 51 percent of insurance based health care expenditures can be attributed to the same group of Nevadans. See Appendix H, Table 2 and Figure 3.
- Eight percent of rural/frontier Nevadans receive health insurance from other private insurance, while six percent of their insurance based health care expenditures can be attributed to the same group of Nevadans. See Appendix H, Table 2 and Figure 3.
- 21 percent of rural/frontier Nevadans have no health insurance, while seven percent of the documented health care expenditures can be attributed to the same group of Nevadans. See Appendix H, Table 2 and Figure 3.

C. HEALTH SERVICES INVENTORY

We compiled an inventory of health care facilities, their service offerings, and the number of health care professionals that are currently available in each rural/frontier county of Nevada. We then analyzed the access to these facilities and personnel in relationship to Nevada's rural/frontier population. Finally, we used this information to develop the gap analysis and the service related aspects of the strategic plan.

The health services inventory was compiled by utilizing information from four types of sources[33]:

- Nevada licensing boards and authorities provided listings of licensed personnel and facilities by type of practice and service.
- Third party data, such as industry books and guides, provided information when it was unavailable elsewhere.
- Various health organizations, stakeholders, and Task Force members provided information that sometimes supplanted data from other sources.

[32] The base case does not include out-of-pocket expenditures, deductibles, and copayments of those who are insured. Estimates of the uninsured population's cash payments are included.

[33] Appendix J contains a list of data sources.

- Information was provided by rural health care facilities through survey instruments.[34]

Each health services inventory table indicates the primary source of information that was used. See Appendices K, L, and M. Data availability, timeliness, and accuracy are always a concern in studies of this type. In all cases, we used information we understood to be the most reliable and up to date. At the reading of this document, parts of it may already be out of date.

As expected, we found the most inconsistency with personnel information. The Task Force and consulting team invested significant time and effort to reconcile and improve the accuracy of these data. Throughout this project, the Task Force and consulting team had difficulty obtaining reliable health care data. As a result, a recommendation has been added to the strategic plan to develop an integrated data collection and outcome measurement system.

1. Hospitals and Hospital Services

In collecting information on the number of hospitals and hospital services available to rural/frontier counties, we gathered information from: 1) DHR, Bureau of Licensure and Certification; 2) NRHP; 3) the American Hospital Association Guide to the Health Care Field: 2001-2002 Edition; 4) a survey faxed to various hospitals; and 5) input from Task Force members. Although there was some duplication, utilizing all these sources allowed us to cross-check information and improve its reliability.

There are a total of 14 hospitals in rural Nevada. In addition, there are six hospitals in states neighboring Nevada that are a reasonable travel distance for

[34] For example, for the number of hospitals as well as services offered at hospitals, we utilized information obtained from the Nevada Bureau of Licensure and Certification, the AHA Guide to the Health Care Field, 2001-2002 Edition, information from the Nevada Rural Hospital Partners (NRHP), and finally, information obtained from a hospital survey.

rural/frontier Nevadans.[35] Appendix K summarizes the services offered by hospitals in each rural/frontier county. A map of the hospital locations shows the distribution of these hospitals. See Appendix N for the map of hospital locations.

2. Non-Hospital-Based Facilities and Services

In collecting information on the number of non-hospital-based facilities and services available to rural/frontier counties, we gathered information from: 1) the Nevada Health Centers, INC. (NVHC); 2) DMHDS; 3) the Inter-Tribal Council of Nevada, Inc.; 4) the Mason Valley Fire Protection District; and 5) DHR, Bureau of Licensure and Certification. Pharmacy information was provided by the State Board of Pharmacies. The definitions of facilities follow Nevada statute.[36] The NVHC clinic counted in Pershing County is actually located in Gerlach (Washoe County); however, it was included in the Pershing County count because of its proximity to parts of Pershing County. Similarly, the mental health center counted in Lincoln County is actually located in Mesquite (Clark County). It was included in the Lincoln County count because of its proximity to that County.

A map of each primary care facility[37] location is provided in Appendix O. In our gap analysis, we discuss the population that can reasonably access these facilities.

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[35] Reasonable distance is based on the Task Force's recommended acceptable standard of 1 to 3 hours away for a tertiary center and approximately 45 minutes away for a hospital that provides secondary services.

[36] Nevada Revised Statute: Chapter 449, "Medical and Other Related Facilities, Licensing, Regulation and Inspection."

[37] Community health centers, rural clinics, mental health centers, and tribal health clinics. Tribal health clinics do not usually serve non-Native Americans. However, we included them so that we can discuss additional population coverage that the tribal health clinics could provide.

3. Primary Care Personnel

For primary care personnel in rural/frontier counties, we gathered information from:

- NVHC
- DHR, DMHDS
- The Innova Group[38]
- Nevada licensing boards
- Rural hospitals and other facilities

Though each of the sources listed above provided some duplicative information, this duplication was valuable for validation purposes. Some discrepancies also resulted. On a county-by-county and practice-by-practice basis, we chose the source(s) of information we considered most reliable based on our review of the data and consultation with Task Force members.

For the primary care personnel, we then adjusted physician and physician extender counts to reflect full time equivalency (FTE). For example, where we had information that a doctor was practicing in two counties, we counted that physician as a half FTE in each county.[39] This ensured that we did not over count providers. Finally, physician extender figures are FTE counts adjusted for any potential practice limitations relative to physicians.[40]

[38] These figures did not separate out the number of physicians from the number of physician assistants and nurse practitioners. Rather, all of these professionals are grouped together into the total count.

[39] We found the same psychiatrist to be practicing in Lander, Pershing, and White Pine Counties. We thus counted him as one-third FTE in each county.

[40] The number of physician extenders was adjusted downward by 0.75 to account for the limitations in substitutability between physician extenders and physicians.

4. Rural Health Services

We sent a questionnaire to hospitals, community health centers, rural clinics, and tribal health clinics in rural/frontier Nevada. Facility representatives were asked to indicate the adequacy of certain health care services currently being provided: specialist/clinic services, mobile diagnostic services, and some hospital-based services. Specifically, we asked the facilities to indicate whether they thought certain health care services being provided at their facility or at a nearby facility were sufficient. See Appendix P for a copy of the questionnaire that was sent to each of the facilities.

5. Technology and Telehealth

Nevada rural communities are linked by a telemedicine network developed by the Northeast Nevada Area Health Education Center (AHEC) with support from the Nevada legislature, the University of Nevada School of Medicine (UNSOM), NRHP, and various federal programs. Utilization is growing as administrative and payment issues are resolved, but additional efforts are needed.

This chapter discussed the various methods the LECG team utilized to obtain information regarding Nevada's rural health care environment and the opinions and recommendations of its stakeholders and citizens. The following chapter describes initiatives that other states have utilized to improve the health of rural residents and the delivery of rural health care services.

III. OTHER STATES' INITIATIVES

Each state, like each community, is unique. Although there are commonalties across states, no one solution fits every state. Most states (and successful rural health systems) employ a combination of federal, state, local, and private initiatives to further rural health care delivery. This chapter presents information on how other states are addressing health professional shortages and infrastructure development together with related financing issues.

It should be noted that several of the initiatives described in this chapter have been implemented in Nevada or are in the planning stages. When possible, those programs/initiatives have been noted.

A. HEALTH PROFESSIONAL SERVICES

Health professionals are the cornerstones of the provision of rural health care services. Some efforts to address the supply of rural health professionals are direct. Others indirectly improve access to health care services, such as scope of practice changes.

1. Health Professionals

Health professional supply and distribution initiatives include a combination of federal, state, local and private efforts. They involve a continuum of interventions from education and training to recruitment and retention.

a. Education and Training

States and educational institutions have established a variety of initiatives to improve the supply of health professionals in rural areas. A key factor in training professionals for rural areas is the state and institutional commitment to the needs of

rural health as found at the University of Minnesota Duluth, Mercer University in Georgia and the University of Washington School of Medicine. Integral to this is the selection of, or preference for, students likely to work in rural areas.

Thirty-eight states (including Nevada) have programs under which medical students or residents train in a rural health care facility. Thirty-four of these also offer rural rotations for other practitioners, such as physician assistants, nurse practitioners, and certified nurse midwives. The number of required months in rural training closely correlates with the likelihood of graduates choosing rural practices. An indirect benefit of rural training programs is the attractiveness to rural physicians to maintain contact and collegiality with an urban medical center, access to telemedicine, and the ability to continue their ongoing professional development.

Similar to the UNSOM, the University of Washington School of Medicine (the only medical school for Alaska, Idaho, Montana, Washington and Wyoming), conducts decentralized medical education and incorporates several innovative initiatives into its program, including:

- An elective rural experience during the summer following the first year
- A six-month integrated rural training experience during the third year
- The Idaho Track, which allows students to complete all third-year required clerkships within the State of Idaho.

Several family practice residency programs have established one plus two rural training tracks. These programs involve the first year at a large urban teaching center and the last two years at a rural community hospital. Such rural training programs are found at the University of California campuses in Davis, Merced, and Redding, and the University of New Mexico. Barriers to rural training track programs that must be addressed include: (1) a major move after the first year of training; (2) shifts in graduate medical education reimbursement; (3) lower rural reimbursement; and (4) accreditation requirements.

Financial support for rural training programs and rotations is provided by a variety of sources. Federally and state funded AHECs support preceptorships and clinical rotations in several states including Arizona, Nevada, New Mexico, and North Carolina. Some local communities provide living arrangements as in-kind. Foundations, in particular the W.K. Kellogg Community Partnerships Initiative, also promote innovative training models to prepare health professionals for rural and underserved areas.

b. Scholarships and Loans

Most states (including Nevada) offer some form of scholarship and/or loan repayment program to improve the supply and distribution of health professionals, in addition to the federal National Service Corps' scholarship and loan repayment programs. Some focus exclusively on physicians; however, more states have expanded the programs to nurses, and allied health and midlevel providers. There are a few exceptions where these statewide programs do not receive state funds, including:

- Colorado's Health Professions Loan Repayment Program funded by federal and community funds
- Montana's and West Virginia's programs that use student fees
- Florida's Nursing Loan and Scholarship programs financed with licensure fees

A few states require local match as a sign of commitment. For example, Washington gives scholarship preference to students who are sponsored by a community, and North Dakota has a 50/50 State and community match loan repayment program. Nebraska's loan repayment program is unique in that it is available to individuals in their last year of training or to physicians already practicing (for less than three years) in a medical shortage area.

Over the past decade, states have moved away from traditional scholarship programs in favor of loan repayment programs associated with a more immediate service obligation. Although most states have not conducted evaluations of their

scholarship and loan repayment programs, modifications have been made to increase placement and retention rates, including:

- Increasing the amounts of yearly scholarships and/or loan awards
- Stiffening penalties for noncompliance
- Modifying service criteria to increase the number of eligible sites
- Changing the participant selection process

Last year, Oregon modified its nursing program to shift the emphasis to loan repayment and allow for part-time employed nurses. States also note that since most scholarships and loan programs are specific to a health profession, they lack the flexibility to target resources to the changing needs of different health professionals.

c. Other Financial Incentives

Various non-educational financial incentives are offered by states, local communities, and the private sector. These include practice start-up grants, bonuses, and income supplements that are capped at a certain amount and tied to year of practice. These subsidies may be targeted, either to specific geographic areas, types of facilities, or services. Rural hospitals also provide initial income guarantees, signing bonuses, bonuses for time in service, practice set-up support, and other financial arrangements to support new health care practitioners in a community.

At least six states (Alabama, Georgia, Louisiana, Montana, Oregon and Virginia) use income tax credits as a financial incentive. Each state's eligibility criteria vary. Oregon's tax program, a $5,000 income tax credit for certain health professionals serving rural communities, was noted as its most important incentive to attract and retain health professionals in rural areas.

Several states support rural physicians through malpractice insurance programs targeted to address obstetric and charity care relief. Alabama has increased Medicaid reimbursement for 'high risk' services to offset the medical malpractice premium costs;

however, direct subsidy programs are more common. Illinois awards grants to physicians practicing obstetrics in rural shortage areas to cover the cost of malpractice insurance. Maine provides subsidies (partially funded by a physician assessment) to primary care physicians in designated underserved areas who provide obstetrical and prenatal services. Rather than subsidizing malpractice premiums, a number of states directly indemnify physicians or more commonly address the risk through some type of immunity from liability, in particular when providing charity care.

Several states note that until the larger issues of low public insurance reimbursement, in particular Medicaid, and the rapid rise in malpractice costs are addressed, they will have difficulty attracting physicians to the state in general, detracting attention from rural access issues. Most recently, West Virginia reestablished a State-run Board of Risk and Insurance Management to offer preferred and high-risk premiums to providers who cannot find affordable coverage in the private market. In addition, the law offers a tax credit for some premiums, institutes civil litigation reforms, including mediation, eliminates third-party "bad faith" suits, and makes changes to the jury structure.

d. Practice Environment

Although many retention efforts are left to the rural hospital or clinic, a few states have implemented strategies to create a more attractive practice environment in rural areas. These include coordinated recruitment efforts, development of service systems, continuing education, locum tenens, and physician practice support.

State-supported locum tenens programs offering "substitute" providers for continuing education and vacation are the most prevalent state initiatives to address retention in rural areas. New Mexico State Health Service Corps funds nonprofit community clinics for limited retention efforts, such as continuing education and retention bonuses. Local hospital efforts are variable and may be tailored to the

individual needs of the professional, such as private school education support. Hospitals (including those in Nevada), recognizing that emergency room (ER) coverage is a factor discouraging physicians from locating in rural areas, pay local physicians to take ER duty or contract privately for ER coverage. Hospitals also provide practice support, such as billing, office space, and equipment for niche services a physician would like to provide. Other initiatives to improve the practice environment, such as the creation of strong health networks, community and rural health clinics, and telemedicine for continuing education are discussed below.

Regardless of financial and practice incentives, it is well established that the most critical factor in the retention of health professionals in rural areas is the concordance between the health professional, their family, and the community. To facilitate recruitment and better matching between health professionals with practice opportunities, several states (including Nevada) support centralized recruitment efforts. These may include specific offices for recruitment and placement of health professionals such as New Mexico Health Resources, Inc., to less labor intense efforts, such as Texas HealthFind, an annual weekend health care job fair to bring together medical residents and rural hospitals. Several states, including Minnesota, New Hampshire, North Carolina, and Oregon maintain a computerized database on communities and provider practices within the State and on health professionals seeking in-state positions to facilitate the matching process. Texas Prairie Doc offers registries to hospitals and physicians for both permanent and locum tenens positions wanted and needed.

e. J-1 Visa Waiver

International medical graduates (IMG) through several J-1 visa waiver programs are a major supply of medical services in many rural and other shortage areas. In a 2001 analysis, if all IMGs were removed, the percentage of rural counties with

shortages would rise from 30 to 44.4 percent. Several federal entities, most notably the U.S. Departments of Agriculture and Health and Human Services, have established J-1 visa waiver programs for health professionals. The states with the largest number of J-I visa waiver physicians include California, Florida, Louisiana, Michigan, and Texas. [The decision, made after September 11th by the U.S. Department of Agriculture (USDA), to stop the J-1 visa waiver program was altered to accommodate those already in the system. Long term, the USDA has removed itself from the program.]

Additionally, 44 states have Conrad-20 programs for up to 20 J-1 visa waiver physicians per year. Sixty-two percent of these physicians have been placed in rural areas. The requirements vary among states. Most states require that the practice site accept Medicaid, Medicare, and uninsured individuals. Physicians admitted under the Conrad-20 program are not required to be primary care, which is attractive to rural hospitals in need of critical specialties, such as general surgery, radiology, and anesthesiology. Some states do, however, limit their Conrad-20 physicians to primary care. There are efforts underway to increase the number of physician slots in the program to 30 or 40 per participating state.

2. Scope of Practice

Legislative changes to scope of practice can have the impact of expanding access in rural areas by allowing a health professional discipline to provide additional services.

- Many states (including Nevada) now allow prescriptive authority for nurse practitioners, physician assistants, and other midlevel providers. Establishing public insurance reimbursement has further facilitated the use of midlevel providers.
- Several states, including California, Colorado, Nevada, and New Mexico, have established collaborative practices for dental hygienists to improve access to preventive dental services.
- New Mexico is the first state to allow prescriptive authority for psychologists.

- The Red River EMS program in Taos, New Mexico expanded the allowable services EMTs may perform to include the delivery of very basic primary care and preventive services, thereby reducing the burden on other providers, including the hospital ER.
- Pharmacists, working under guidelines, are able to administer vaccinations and provide other services in some states.
- Several states and rural hospitals have noted the need for cross-training to allow one health professional discipline to provide basic services of another discipline, such as a laboratory technician performing basic x-rays or nurses performing allied health services. Federal government facilities, including the IHS, have been at the forefront of such innovations, due to their exemption from state licensing boards.
- Other barriers to entry into a state are also being modified, such as reciprocity and licensure by credential.

3. Alternative Health Service Providers

Taking scope of practice changes one step further, and primarily to acknowledge individual control of health services and the need for states to contain Medicaid costs, half of the states have implemented some form of self-directed personal care in the continuum of long-term care services to reduce nursing facility use. In Medicaid self-directed care, the individual is responsible for hiring and selecting a person to provide and assist them in activities of daily living. Requirements to be employed as a personal care assistant are usually minimal, facilitating the use of a high number of unemployed in rural areas, including family members. While federal law prohibits reimbursing "legally responsible" family members, California and Maine have dedicated state funds to allow this practice.

The National Community Health Advisor Study of 1998 estimated that at least 600 programs in the United States are using lay health workers. These individuals are referred to by a variety of names including community health worker, promotora, family health advisor, and natural caregiver, among others. The scope of services provided by lay health workers varies along a continuum from limited volunteer services in health education to the actual provision of services, such as by Alaskan Community Health Aides and IHS's programs. However, the predominate use remains in health education

and bridging the gap between geographically and culturally isolated populations and the health and social services they need.

In lieu of the permanent presence of a service in a rural community, many states and the private health care sector are establishing rural outreach clinics and telemedicine projects. These are discussed below.

B. INFRASTRUCTURE

1. Ambulatory Facilities and Equipment

Publicly supported facilities, bricks and mortar, and equipment for ambulatory services in rural areas are most commonly provided by local public health offices, community health centers, rural health clinics, and hospitals.

a. Public Health Offices

In all but two states, funding for public health services comes predominately from counties. These services may be the only source of basic primary care, including prenatal services, in some areas. Even New Mexico, which uses State general funds to finance the operations of public health offices in each county, requires counties to provide and maintain the facility.

b. Community Health Centers

Community health centers exist in most every state providing community oriented health services. The services may be limited to basic primary care or cover a full spectrum of services, such as specialty medical services, dental, behavioral health, and social services. Arizona and New Mexico lead the region in the number of community health center sites spread throughout medically underserved and health professional shortage areas.

Community health centers, operated by a community board, can provide service stability in an area, despite health provider turnover within the clinic. Increasingly, physicians are reluctant to enter independent or small group practice in rural areas given the administrative complexity, diminishing reimbursement, and high proportion of uninsured in most rural areas. The community health center provides not only the facility and practice administration, but also a guaranteed income.

Community health centers are eligible for federal grant funding that is increasing under the current administration. Some states and local governments also provide direct financial support for development and operation of community health centers. Medicare and Medicaid reimbursement are on a cost basis and takes into consideration the more expanded scope of services. Capital improvements and equipment may be provided by state-supported grants and low or no interest loans, such as provided by Arizona, Minnesota, New Mexico, and Oregon.

c. Rural Health Clinics

Other states, such as Texas, rely heavily on rural health clinics. Rural health clinics may be private for profit, such as a private physician, or may be established by public health offices or hospitals. While these clinics receive cost-based reimbursement from Medicaid and Medicare, they are not eligible for the federal grant program. Texas notes that the hospital established rural health clinics can improve primary care access; however, in some communities these rural clinics have lacked stability, opening and closing according to the interests of the sponsoring hospital. In many situations, the establishment of rural health clinics is primarily a method to increase reimbursement and less to establish a facility.

2. Hospital Facilities and Equipment

Many rural hospitals built in the Hill-Burton era have aged and struggle to provide the facilities and equipment needed to meet the requirements of modern medicine. The critical access hospital designation, one component of the Medicare Rural Hospital Flexibility Program, is revitalizing many rural hospitals across the country. Some states (including Nevada) have aggressively pursued designation of rural hospitals as critical access hospitals resulting in over 550 critical access hospitals in 47 states. (Only Delaware, New Jersey, and Rhode Island have declined to participate). Critical access hospital designation allows some flexibility in staffing and ensures cost-based reimbursement for hospital services. This allows hospitals to enhance funding for and depreciate the cost of facilities and equipment.

In addition to patient revenues, hospitals across the country derive funding from a variety of state and local government programs, and private donations. Several states, including Arizona, Minnesota, and New Mexico, operate hospital capital grant and loan programs. Minnesota's Rural Hospital Capital Improvement Program provides grants of up to $500,000 per year for equipment and facilities. Initially funded with a portion of a provider tax, in 2001 the funding source was changed to monies derived from adjustments under the Medicaid upper payment limit. Additionally, states have extended taxing authority to local governments to support hospitals.

In some areas, local nonprofit or public hospitals seek to be acquired by a larger state hospital system or a national hospital corporation. This allows access to needed capital.

3. Long Term Care Facilities

The supply of nursing home beds in non-metropolitan areas is nearly 43 percent higher than in metropolitan areas. Rates of institutionalization are higher among rural seniors compared with their urban counterparts. Whether due to the lack of

alternatives, such as home based care, or the availability of beds driving greater institutionalization, nursing facility payments are the largest part of most states' (including Nevada's) Medicaid budgets and growing rapidly.

Nebraska's Nursing Home Facility Conversion Program grants up to $1.1 million to sites that propose to convert nursing facility beds to assisted living facilities. The program is funded with Medicaid matching funds, using the difference between the Medicare upper payment limit for skilled nursing facilities and the Medicaid reimbursement rate for nursing home care in Nebraska.

Oregon's Vision 2000 project pays Vision 2000 facilities the higher Medicaid nursing home bed rate, rather than the community-based rate for long-term care, during a five-year period following the development of a new assisted living facility.

4. Telemedicine

Telemedicine is broadly defined as electronic communications for the health and education of the patient or health care provider and for the purpose of improving patient care. Currently, there are telemedicine projects in various stages of development in at least 40 states (including Nevada). The most prevalent uses have been in health professional education and training, continuing education, and fixed image transmission, such as teleradiology. The application of telemedicine in direct service delivery is evolving, particularly in home health care, behavioral health, and specialty consultation. Montana, Texas, and Utah recently enacted legislation to establish telepharmacy services.

In addition to state funding, the federal government invests significant funding for project development through the USDA, Health Resources and Services Administration, and the National Library of Medicine. The Department of Defense is also funding the development of cutting edge applications for remote service delivery. Despite major funding efforts, several barriers have existed that limit the sustainability and hence the

application of telemedicine to improve rural service delivery. These are being addressed by the federal government and states as follows:

- The Telecommunications Act of 1996, Universal Service Order, ensures that rural health providers can access communication services at rates comparable to their urban counterparts. However, in many of the most rural areas, the telecommunication infrastructure required for telemedicine does not exist and communication companies are unwilling to invest in infrastructure development. States are addressing this through coordinated rural economic development initiatives and state contract requirements.
- Reimbursement for telemedicine services by insurers, is a major factor in the sustainability of direct service telemedicine applications. The Balanced Budget Act of 1997 allows Medicare reimbursement for telemedicine professional consultations (for otherwise reimbursable services) for a beneficiary residing in a rural county designated as a HPSA. As of October 2001, 18 states allow Medicaid reimbursement for telemedicine services (Arkansas, California, Georgia, Illinois, Iowa, Kansas, Louisiana, Minnesota, Montana, Nebraska, North Carolina, North Dakota, Oklahoma, South Dakota, Texas, Utah, Virginia, and West Virginia). States have wide latitude in defining reimbursable telemedicine services. Some states, like Nebraska, have restrictions, e.g. a comparable service can not exist within a 30-mile radius of the client's home. California and Texas recently enacted legislation requiring all third-party payers, including Medicaid, to reimburse for telemedicine services.
- In many rural areas, proximity and historical referral linkages are across state lines, resulting in licensure issues. The Federation of State Medical Boards adopted model legislation requiring a special license issued by the state medical board for telemedicine services across state lines. Six states (Alabama, California, Montana, Oregon, Tennessee, and Texas) adopted this model act. The American Medical Association opposed it and called for full and unrestricted licensure in each state. Over three times as many states have adopted laws in accordance with the American Medical Association position, despite the barrier to telemedicine health services.

5. Outreach Clinical Care

As an alternative to permanent health facilities and professionals, communities use a variety of funding sources and collaboration to provide access to services through outreach and mobile clinics. In addition to service provision, outreach services can minimize the professional isolation experienced by rural providers, update rural providers' clinical expertise, and promote collegiality.

Specialty outreach clinics are typically established by regional and tertiary hospitals to promote the referral of patients to their facility or by physicians facing increased competition in urban areas. In some states, federal Maternal Child Health and Children's Medical Services funds and/or state funds subsidize rural specialty outreach clinics. Alternatively, states have established outreach clinics at non-medical sites, especially public schools, to promote access to services. These site clinics tend to have a broader service function and may include social and human support services. Most use a combination of funding, including Medicaid reimbursement and direct funding from the state. Arizona and New Mexico each have over 80 school-based health centers providing basic diagnostic and therapeutic services. Some states and schools also provide dental examinations and preventive dental services, such as sealants.

Mobile clinics are used not only to facilitate access to care, but to deploy technology not cost-effective to maintain at a fixed rural location. Due to the transitory nature of the population, some migrant health clinics use mobile services. Dental services, through school clinics and Head Start programs, are also being provided by mobile units. In West Virginia, grant, health department, senior citizen center, and hospital funds have been coordinated to provide mobile primary care and social services to a remote area. Diagnostic radiology is the most commonly cited technology for mobile units. On the Navajo reservation, long travel distances were associated with a low use of screening mammography. Federal Breast and Cervical Cancer Screening program funds were used to subsidize a mobile mammography unit.

C. ENABLING ACTIVITIES

In addition to direct interventions discussed above, states also employ other initiatives that facilitate the provision of services in rural areas. Some of these are specific to rural health access issues; others have more general impact on the supply of health services statewide. For discussion purposes, most enabling state activities can

be categorized as: (1) financing; (2) support and planning, including technical assistance; and (3) network development, which also is occurring in some areas (such as Nevada) without state intervention.

1. Financing

States employ a combination of two financing extremes to improve access to health services in rural and underserved areas. At one end is direct financing or subsidies to health professionals, facilities, and services. At the other extreme, is allocating resources to decrease the number of uninsured, and using the free market to provide the services either laissez faire or through contract specifications, such as for Medicaid managed care and public employees. Although no states seem to operate exclusively at one extreme, factors such as historical, social, and political preferences; Medicaid federal match rate; and the degree of ruralness may all figure into decision making.

a. Insurance Coverage

Lower rates of insurance coverage and higher poverty in rural areas increase the difficulty of maintaining financially viable local health services. Nationally, 19.6 percent of rural residents are uninsured, compared with 14.3 percent of urban residents. Some states, such as Minnesota and Washington, have state only financed programs to reduce the number of uninsured. However, most states rely on Medicaid and the State Children's Health Insurance Program (SCHIP) to expand coverage. To the extent that Medicaid and state employee insurance are delivered through managed care, some states structure contract access requirements to ensure provider participation in Medicaid and to promote the delivery of services in rural areas.

Awareness of public insurance programs may also be less extensive in rural areas. States are addressing this through more aggressive outreach, using community

based groups and other outreach workers. Georgia's Emanual County: Access for All network increased enrollment in PeachCare, Georgia's SCHIP, by three-fold.

b. Reimbursement Rates

The critical access hospital component of the Medicare Hospital Flexibility Program is the most significant recent reimbursement change to promote the financial viability of rural health. Critical access hospitals, which provide basic inpatient services, receive cost-based Medicare reimbursement for acute inpatient and outpatient hospital services. Several states have extended this Medicare cost-based reimbursement to their Medicaid programs. In Arizona, hospitals with a high volume of Medicaid patients are eligible for critical access hospital reimbursement levels. Georgia Medicaid reimburses ERs in critical access hospitals their full reasonable charges. Nevada Medicaid provides cost-based reimbursement for inpatient days, but has not expanded improved reimbursement for outpatient services. States also enhance Medicaid reimbursement for certain physicians, either based on geographic location and/or service.

The establishment of rural health clinics (RHCs), a federal designation, also serves to increase reimbursement for rural health professionals. RHCs, which may be private and for profit, receive cost-based reimbursement from Medicaid and Medicare. States differ in the extent to which providers have taken advantage of the RHC program. Three Nevada rural hospitals have designated RHCs and three more are in process. Texas has the most RHCs in the nation. Minnesota and Washington have noted a recent increase in the establishment of physician owned RHCs as a method for private practitioners to increase reimbursement rates. Other entities such as public health offices have also established RHCs to better support their operations. States can further the development of RHCs to enhance the financial viability of rural health services by promoting and providing technical assistance.

c. Local Taxing Authority

In recognition of the value of maintaining a hospital, many states (including Nevada) authorize local governments to levy taxes, issue bonds, or make loans to support hospitals or health services. Several states allow counties to impose sales taxes specifically to support health care services and indigent care. Arizona, Minnesota, New Mexico, Texas, Washington, and several other states allow local property taxing authority to help support public hospitals, either with or without the establishment of local hospital districts. Arizona extended the use of the hospital district funds for urgent care and medical clinics to improve access to basic primary care services in rural communities. Intergovernmental transfer of such funds for leverage through the Medicaid program has also increased the amount of dollars available to support rural health facilities, in particular hospitals.

d. Essential Community Provider

To ensure a patient revenue stream for certain rural providers, states have established essential or critical access provider programs guaranteeing rural providers contracts with insurers. Some are limited to insurers providing services to Medicaid recipients and/or state employees, while others include all managed care insurers. Eligible providers vary from state to state; however, most focus on primary care. Most states require that the provider be offered at least the same, if not the most favorable, terms and conditions the insurer extends to other like providers. However, since in most rural areas the issue is the limited supply of providers, the impact of essential access provider programs alone may be limited. Some states have extended the incentives of essential community provider to include financial incentives, such as a property tax exemption.

2. Economic Development

Increasingly states are recognizing the inter-relation of economic development and health care. Health care provides jobs and is necessary for a viable community. Businesses are a source of insurance coverage to finance health care services and a tax base to assist in the financing of facilities and services. Several states, including Oklahoma and Texas, use an economic impact model to promote local interest in health service support. The Texas ORH in now part of the Office of Rural Community Development. The Georgia Health Policy Center provides staff support to the Rural Development Council chaired by the Lieutenant Governor.

3. Support and Planning

All states have offices of rural health or the equivalent functions assigned to various entities to support rural health. The strength, state funding, and focus varies among states. Activities include:

- **Advocacy** – Some states note that the major urban areas tend to drive health policy decisions, unless there is a strong rural health analysis and advocacy component. Oregon's ORH devotes substantial effort to advocating for rural health issues in the design of public insurance programs.
- **Needs assessments** – Needs assessments take various forms. Some concentrate on rural health issues such as health professionals; others are geographically focused on the health status or health needs of an area. For example, Minnesota's ORH concentrates on health professional supply issues. Georgia and Oregon conduct comprehensive needs assessments and analyses of health care utilization patterns by county.
- **Information clearinghouse** – Ready access to data, information, and expertise on rural health care issues, including funding sources, assists not only rural communities, but may facilitate consideration of rural issues in decision making. The Georgia Health Policy Center serves as a resource on health issues, including rural health, to the Legislature and the Georgia Rural Development Council. The Arizona State ORH serves as the clearinghouse for rural health care information through data dissemination, publications, and its web site.
- **Community technical assistance** – Technical assistance may be targeted to a single type of service, such as the conversion of hospitals to critical access hospitals

or private practitioner officers to rural health clinics. Increasingly, states are moving forward with more comprehensive technical assistance for community health network development. An example of this, Georgia Networks for Rural Health, is discussed in detail in the Network Development section.

The above rural health functions are provided by a variety of publicly funded entities, both within state government and outside, most commonly at a public university. States note advantages to both state government and university based entities. Examples of university programs include Arizona, Nevada, and Oregon. Although Georgia's ORH Services is part of State government, many of the functions have been delegated to Georgia State University's Andrew Young School of Policy Studies. State governments in Minnesota, Nebraska, New Mexico, and Washington perform these functions, usually under the auspices of their departments of health. Responsibility for rural health services in Texas has been transferred to the new Office of Rural Community Development to better coordinate all rural development efforts.

In most states, responsibility for rural health is dispersed among multiple entities, with varying levels of collaboration that affects effectiveness. The State of Georgia notes that a strong common shared vision of rural health held by the Georgia Rural Development Council has facilitated better coordination.

The federal Medicare Rural Hospital Flexibility Program has a second component that includes developing and implementing a state rural health plan, development of rural health networks, and establishing or expanding emergency medical programs. This also includes a federal flexible grant program of $25 million per year. In Nevada, this effort is coordinated by the ORH. States are using this component as a springboard to further state rural policy goals, provide technical assistance to communities, fund rural health development grants, and establish integrated community health networks to meet resident needs. Most importantly, states appreciate the consolidated flexible funding to tailor interventions to their own state and community needs.

a. Designation and Needs Assessment

States have the responsibility for designating counties or parts of counties as HPSAs and/or medically underserved areas for the purpose of accessing federal funding and programs. Although federal criteria and guidelines must be followed, states can facilitate access to resources by aggressive designation and regular reassessment of areas. Many states establish their own criteria for rural or underserved for state funded programs. How stringent or relaxed these criteria are affects the deployment of often limited resources to those rural areas most in need. Such criteria may also facilitate states in targeting resources and interventions.

b. Data and Data Systems

Needs assessment, designation, and effective technical assistance are highly dependent on robust data systems. The more sophisticated systems integrate data from a number of sources including state hospital discharge data systems; Medicaid, Medicare, and other claims databases; health professional and facility licensing data; vital and other health statistics; demographic and economic data; and other survey data. Georgia and Oregon use comprehensive data in the assessment of a community or region, including health status and sources of care for local residents, to focus planning efforts on the needs of residents. Texas and Oklahoma use data and the IMPLAN model to provide information for local communities on the economic impact of rural health services.

Most states, however, still rely on fragmented data to piece together the information required at the time it is needed. Several states noted difficulty in effectively targeting limited resources to areas most in need, due to the lack of data and information.

4. Network Development

Despite the fact that some networks can and have eroded rural health care services and local access, properly implemented networks have demonstrated substantial advantages to rural health care delivery and access. Well designed relationships, both locally and with urban medical centers, can lead to financial stability and improve access to appropriate levels of services. How this is accomplished varies from network to network.

- Some networks may be formed around a specific condition, such as integrated diabetes management or a specific condition, such as the PACE programs for disabled elderly that integrate acute and long term care and Medicare and Medicaid financing.
- Networks may integrate services to facilitate access by locating core community health and health-related services under one roof for "one-stop shopping". Shared information systems and medical records may provide a virtual network of care.
- Many hospitals reduce costs by obtaining volume discounts through shared purchasing arrangements.
- Shared administrative and management functions may further reduce administrative overhead and provide technical expertise. Examples of these networks include hospitals and the standardized centralized billing system for voluntary EMS services in North Carolina.
- Some networks, most commonly community based, have formed proactively to improve health and maintain and enhance their health services. Other networks have formed reactively to maintain local control and the financial viability of facilities in response to threats from outside hospitals and managed care organizations. The latter includes such networks as physician hospital organizations, rural hospital networks, hospital networks formed with an urban medical center, and community health center networks.
- Regardless of the purpose, networks may be loosely organized for purposes such as shared purchasing, or highly organized as when a major urban medical center acquires or manages rural hospitals.

a. State Network Development: Georgia as an Example

As exemplified by Georgia, a few states are actively facilitating the development of geographically based networks (community, county, or regional) with the intent of

stabilizing and enhancing rural health care services. Georgia's Network for Rural Health has proven successful and is serving as a model for other states. The goals of the program are financial stability, access for all residents, and quality care. On the surface the process is simple. The rural community commits to a vision, restructures care and financing, captures savings, and reinvests for better results. The Network for Rural Health is a learning organization that has evolved rapidly in the four years since implementation and is continuing to modify its program. Key components, lessons learned, and adjustments are:

- The process starts with a request from local leaders. Then a facilitated meeting is held to establish community goals. This process is supported by a community health profile, mapping of community assets, and an assessment of the flow of community health care dollars out of the community and why. Local perspectives of health are incorporated. A comprehensive business plan is developed, including a financial viability assessment. During implementation, the community assets are aligned and the delivery system built. Results and impact are measured and expansion activities planned.
- A strong change process and technical assistance for guiding communities through a re-structuring of the local health care system is provided by the state. A menu of technical assistance is available at each stage of the process, including experts in community development, clinical medicine, hospital finance, strategic planning, economics, managed care, and organizational development.
- Early on it was realized that communities may have difficulty rising above past history, personalities, and competition. Network for Rural Health staff are now all certified in conflict management and mediation. Focusing dialogue on a strong needs assessment and local patterns of health care utilization have also facilitated moving communities forward. For example: in one region the small rural hospitals saw each other as competitors, until Medicaid, Medicare, and state employee claims data were used to demonstrate that patients were not lost to each other's hospitals, but to outside regional and tertiary medical centers.
- Funding was identified as essential for communities to implement their plans. The Network for Rural Health coordinated the development of a grant program using pooled foundation funds, the Philanthropic Collaborative for a Healthy Georgia, and matching State funds from the ORH Services within the Department of Community Health. The Network for Rural Health administers the program allowing foundations and the State to leverage their funding, better target their funds, and avoid duplication. Ongoing technical assistance helps ensure that funds are used effectively.

- A recent outcome of the process is the development of multi-county coalitions to create more opportunities for collaboration, leveraging, and improving health status across counties and health care systems.
- The process becomes easier as more organizations contribute. For example, in an effort to improve physician leadership in the community networks, an alliance was created with several local medical schools and district public health directors. This led to the Rural Physician Leadership Institution and the development of a curriculum to train physicians as leaders.

The Georgia Networks for Rural Health program identifies several critical factors in its success:

- Fundamental to the effort was State government making rural health care a priority.
- The program is based on the principles that communities own the process, the community dialogue has to be information-based, and the focus is on the health status of residents and its improvement.
- The right technical assistance must be provided at the right time.
- Technical assistance and resources must be integrated. Neither resources nor technical assistance alone work as effectively.
- Developed plans and projects must be financially viable, and meet residents' health needs.
- Continued learning and modifications at the state level are crucial.

One example of the process in Georgia is Habersham County. A needs assessment determined that $600,000 in ER services were used by only 70 patients in one year. The community created managed care clinics to serve these patients. In the first year there was an 82 percent reduction in ER visits, a 39 percent decrease in hospitalizations, and nearly $500,000 in savings. The results were taken to the State and a new partnership was established creating a similar care management system in four counties to include State employees. Payments based on a per-member-per-month allotment financed the purchase of information systems and the hiring of case managers to cover the larger area.

Other states also have community development initiatives. The Oregon Community Health Improvement Partnership uses a State facilitated community

decision making process supported by State provided community data and a needs assessment to assist communities in the redesign of their health system. The goals are to better meet residents' needs and enhance rural health care access. Oregon provides State matching funds for a community representative to provide ongoing support.

Many states provide less direct comprehensive technical assistance and instead focus on grants to communities for network development and health system redesign. The federal Office of Rural Health Policy and the Department of Health and Human Services also provide grants to states and local networks for such efforts. An example is the Arizona White Mountain Apache tribe's development of a case management system. This system includes an integrated health care delivery system among the tribe, IHS, and Johns Hopkins University. Although providing critical funds to support the development and implementation of networks, weaknesses of grant only programs include:

- Grants are usually awarded on a competitive basis and may not target the areas most in need.
- Collaboration in a community may be driven by the available funds more than commitment to long-term change in the health care delivery system.
- Realistic, financially sustainable plans may not be possible.

b. Private-Sector Networks: Heartland Health Alliance as an Example

Although most private-sector networks have a business, bottom-line perspective, this is not mutually exclusive to improving health services in rural areas. In fact, Georgia's Network for Rural Health program is increasingly emphasizing a strong business plan, including financial feasibility. Nevada has one of the most successful and mature rural health networks, NRHP, a model that has been used successfully in other states. Established to ensure access to hospital-based services for rural residents, its mission is to support viability of rural hospitals through shared resources, services, and advocacy.

The Heartland Health Alliance (like NRHP), consisting of critical access, rural, regional, and tertiary hospitals in Nebraska and Kansas, is an example of a private-sector network furthering the interests of local control and viability of rural health care systems. Development of Heartland Health Alliance was sponsored and financed by Bryan LGH Health System, after several small rural hospitals approached them regarding potential alliances in the face of rural hospital takeovers by national for-profit hospital corporations. The alliance was limited to hospitals, or like organizations with common issues, to keep the Alliance simple and more effective. The Alliance operates democratically, with each entity having one seat on the board, despite the initial development effort by Bryan LGH. Although the Alliance has expanded from a loose association of 18 original hospitals to a 33 hospital formally incorporated organization, the same basic principles persist:

- Maintenance of local hospital and medical practice viability
- Commitment of resources to local hospitals
- Clinically directed appropriate services at the appropriate level of care (The long-term viability of rural hospitals is advantageous to referral hospitals, including Bryan LGH.)
- Focus on non-competition

Although a fundamental purpose of the Alliance is the contractual provision of management services, such as planning, accounting, managed care support, and clinical consultation, the Alliance has identified and undertaken innovative programs in emergency transport and service delivery. One example is the Chest Pain Initiative lead by the Alliance with the support of Bryan LGH and the state EMS office. In this initiative, Bryan LGH staff and physicians conduct an assessment of local EMS and ER processes. Based on deficiencies, training is provided for hospital and EMS staffs and primary care providers. Bryan LGH also provides both fixed wing and helicopter transport and assists with quality improvement and transfer reviews. An outgrowth of this effort was an interactive video network for training and educational programs to

address the problem that EMTs, often volunteers, found it too expensive and time consuming to leave for training. Additionally, the critical access hospitals in the Alliance formed a network to apply for state Medicare Flexible Hospital Program grant funds for automatic defibrillators and an electronic BLS/ACLS training system to be rotated among the facilities. The decision by the Nebraska State ORH to target Medicare Hospital Flexibility grants to network programs, instead of individual critical access hospitals, is seen as a major step by the State to support health care networks.

D. APPLICABILITY TO NEVADA

This chapter focused on health professional and infrastructure development issues because of their applicability to the issues facing Nevada. It should be noted that Nevada has a number of innovative programs and initiatives. Continued support for these and other initiatives described herein are incorporated in the strategic plan. The following chapter discusses the gap analysis and the fiscal implications of rural health care changes.

IV. ANALYSIS

A. GAP ANALYSIS

1. Introduction

The gap analysis identifies projected gaps in availability and accessibility of appropriate health care services in rural/frontier Nevada.[41] Service definitions are provided in Appendix Q. LECG used community input, the stakeholder interviews, State agency data, and the information that is summarized in the health services inventory to identify gaps in services. Once identified, we address the type, level/amount, and distribution of resources (financial, facility, personnel, and technology) required to close the identified gaps. Finally, we discuss alternatives to obtain the needed financial and other resources.

We analyze gaps along three parameters: primary care workforce, economic sustainability of health services, adequacy of health services, and coverage. For each parameter, we compare the current status to the proposed standard, which then allows us to identify the gaps. The difficulty and complexity of this process made clear that the State should develop a centralized, comprehensive database of health care information. Current data are incomplete and inconsistent among State agencies and stakeholders, making it difficult to formulate optimal public policy. An up-to-date database of services and workforce available is an essential planning tool for making good policy decisions.

2. Primary Care Workforce

Primary care workforce is an excellent example of the inconsistency in data. Gaps in primary care personnel in rural/frontier Nevada are based on information obtained from community meetings, stakeholder experience, State agency data, and

licensing board records. The first three sources indicate severe shortages in most counties with respect to dentists, behavioral health professionals, obstetricians and gynecologists, and pediatricians. The information received from these sources is consistent with the U.S. Department of Health and Human Services' (DHHS') designation of HPSAs. As of 2002, 14 of the 15 rural/frontier counties in Nevada are designated as behavioral HPSAs by DHHS.[42] Similarly, 10 whole counties and 2 partial counties in rural/frontier Nevada are designated as dental HPSAs.[43] Finally, 11 rural/frontier counties are wholly designated and 4 rural/frontier counties are partially designated as primary care HPSAs. This information indicates a strong need for increased numbers of providers in almost all rural/frontier counties.

To assess the primary care workforce gap, we first gathered information on the number of primary care doctors serving each rural/frontier county, as reflected in the health services inventory. We then compared the supply to provider standards, based on access time and population, which were adopted by the Task Force. The proposed standards were developed from industry and LECG experience, a review of national health standards[44], and input received from local stakeholders based on Nevada-specific experience, with final approval by the Task Force.

The proposed standards for primary care workforce are as follows:

- 1 family practice, general practice, or general internal medicine physician, or physician extender (mid-level practitioner) for every 2,500 population
- 1 pediatrician for every 8,000 population

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41 Because of its frontier nature, for the gap analysis, we included the northern part of Washoe County (north of Pyramid Lake), to determine the proportion of population covered by existing facilities.

42 These counties are Churchill, Douglas, Elko, Esmeralda, Eureka, Humboldt, Lander, Lincoln, Lyon, Mineral, Nye, Pershing, Storey, and White Pine.

43 Whole counties are Esmeralda, Eureka, Lander, Lincoln, Lyon, Mineral, Nye, Pershing, Storey, and White Pine. Partial counties are Elko and Humboldt.

44 See for example, DHHS, National Resources and Services Administration, Bureau of Primary Health Care.

- 1 obstetrician/gynecologist for every 10,000 population
- 1 dentist for every 3,000 population
- 1 psychiatrist for every 15,000 population
- 1 core behavioral health practitioner[45] for every 3,000 population[46]

The figure below provides a comparison of LECG's proposed standards to HPSA standards.

Figure 4

Professional	Number of People Per Professional	
	LECG Proposed	HPSA[1]
FP/GP/GIM/Phy. Extenders	2,500	3,000-3,500^
Pediatricians	8,000	Not Available
Obstetricians/Gynecologists	10,000	Not Available
Dentists	3,000	4,000-5,000^^
Psychiatrists	15,000	20,000-30,000#
Core Mental Health	3,000	6,000-9,000^^^

[1] Health professional shortage areas by DHHS, National Resources and Services Administration, Bureau of Primary Health Care

^ 3,000:1 for areas with unusually high needs for primary care services or insufficient capacity of existing primary care providers, otherwise, 3,500:1.

^^ 4,000:1 for areas with unusually high needs for dental services or insufficient capacity of existing dental providers, otherwise, 5,000:1.

20,000:1 for areas with unusually high needs for mental health services, otherwise, 30,000:1.

^^^ 6,000:1 for areas with unusually high needs for mental health services, otherwise, 9,000:1.

The figures below summarize the current status of primary care physician supply[47] and demand for physical and behavioral health in rural/frontier counties of

[45] Core behavioral health practitioners include psychologists, psychiatric nurses, social workers, counselors, and marriage and family therapists.

[46] DHHS, National Resources and Services Administration, Bureau of Primary Health Care uses 1:6,000 for high user populations and 1:9,000 for average user populations. Stakeholder experience in Nevada indicated a potential standard of 1:2,500.

[47] Stakeholder experience in rural/frontier Nevada indicates that licensing boards' figures appeared inflated when compared to actual experience. That is, actual experience indicates, that in certain counties, far fewer professionals actually practice than indicated by the licensing board figures. Specific examples include core behavioral health professionals and dentists. This deviation between

Nevada. Demand was calculated using the year 2000 population estimates from the U.S. Census and the proposed standards above. See Figure 6.

Figure 5A

County	Current Primary Care Supply							
	Physical Health							
	A	B	C	D = A+B+C	E	F	G = D+E+F	H
	Fam/Gen Practice	Internal Medicine[a]	Physician Extenders[b]	FP/GP/ GIM/Phy. Extenders	Peds	OB/GYN	Total PCs with Extenders	Dentists^
Carson City	21.0	15.0	18.0	54.0	6.0	8.0	68.0	27.0
Churchill	7.3	3.0	3.0	13.3	1.0	1.0	15.3	3.4
Douglas	15.0	9.0	10.5	34.5	0.0	3.0	37.5	15.0
Elko	14.0	9.0	9.8	32.8	4.0	5.0	41.8	11.0
Esmeralda	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Eureka	0.0	1.0	0.9	1.9	0.0	0.0	1.9	0.0
Humboldt	3.0	3.0	3.0	9.0	0.0	0.0	9.0	3.8
Lander	1.0	2.2	0.8	4.0	0.0	1.0	5.0	0.3
Lincoln	0.0	2.0	0.8	2.8	1.0	0.0	3.8	0.6
Lyon	5.0	3.0	6.8	14.8	0.0	0.0	14.8	3.1
Mineral	3.3	1.0	2.3	6.6	0.0	0.0	6.6	0.8
Nye	6.0	8.0	9.0	23.0	2.0	0.0	25.0	2.7
Pershing	2.0	1.0	0.8	3.8	0.0	0.0	3.8	2.0
Storey	0.0	0.0	1.5	1.5	0.0	0.0	1.5	0.0
White Pine	4.4	3.0	3.0	10.4	1.0	1.0	12.4	1.5

[a] Physician in Pershing County practices at a facility that is actually in Gerlach, Washoe County, but due to the facility's proximity to Pershing County, it likely serves some Pershing County residents.

[b] Because of the imperfect substitutability of physician extenders for doctors, only 0.75 of actual physician extenders are counted in the supply.

Source:
^ Primarily information from survey of health facilities

existing data and actual experience reinforces the need for an up-to-date, accurate database of health care information for rural/frontier Nevada to facilitate intelligent decision making.

Figure 5B

County	Current Primary Care Supply						
	Mental Health^^						
	A	B	C	D	E	F	G = A + SUM(C:F)
	Psychologists	Psychiatrists[a]	Psych Nurses	Social Workers	Alcohol and Drug Abuse Counselors	Marriage and Family Therapists	Core Mental Health
Carson City	10.0	4.0	2.0	47.0	46.0	17.0	122.0
Churchill	1.0	1.0	1.0	23.0	17.0	6.0	48.0
Douglas	5.0	1.0	1.0	15.0	23.0	12.0	56.0
Elko	2.0	2.3	1.0	36.0	15.0	2.0	56.0
Esmeralda	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Eureka	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Humboldt	1.0	0.8	1.0	2.0	2.0	0.0	6.0
Lander	0.0	0.3	0.0	0.0	2.0	0.0	2.0
Lincoln	1.0	1.0	0.0	2.0	5.0	0.0	8.0
Lyon	5.0	4.3	1.0	46.0	17.0	4.0	73.0
Mineral	0.0	1.0	0.0	3.0	3.0	1.0	7.0
Nye	1.0	1.0	1.0	7.0	7.0	2.0	18.0
Pershing	0.0	0.3	0.0	2.0	2.0	0.0	4.0
Storey	0.0	0.0	0.0	0.0	1.0	1.0	2.0
White Pine	1.0	0.3	1.0	7.0	2.0	0.0	11.0
Total	27.0	17.5	9.0	190.0	142.0	45.0	413.0

[1] Core mental health includes psychologists, psychiatric nurses, social workers, counselors, and marriage and family therapists.

[a] Psychiatrist in Lincoln County practices at a facility that is actually in Mesquite, Clark County, but due to the facility's proximity to Lincoln County, it likely serves some Lincoln County residents.

Source:
^ Primarily information from survey of health facilities

Figure 6

County	Population (2000)	Potential Demand - LECG Proposed Standard						
		Physical Health					Mental Health	
		FP/GP/ GIM/Phy. Extenders	Peds	OB/GYN	Total PCs with Extenders	Dentists	Psychiatrists	Core Mental Health
Carson City	52,457	21.0	6.6	5.2	32.8	17.5	3.5	17.5
Churchill	23,982	9.6	3.0	2.4	15.0	8.0	1.6	8.0
Douglas	41,259	16.5	5.2	4.1	25.8	13.8	2.8	13.8
Elko	45,291	18.1	5.7	4.5	28.3	15.1	3.0	15.1
Esmeralda	971	0.4	0.1	0.1	0.6	0.3	0.1	0.3
Eureka	1,651	0.7	0.2	0.2	1.0	0.6	0.1	0.6
Humboldt	16,106	6.4	2.0	1.6	10.1	5.4	1.1	5.4
Lander	5,794	2.3	0.7	0.6	3.6	1.9	0.4	1.9
Lincoln	4,165	1.7	0.5	0.4	2.6	1.4	0.3	1.4
Lyon	34,501	13.8	4.3	3.5	21.6	11.5	2.3	11.5
Mineral	5,071	2.0	0.6	0.5	3.2	1.7	0.3	1.7
Nye	32,485	13.0	4.1	3.2	20.3	10.8	2.2	10.8
Pershing	6,693	2.7	0.8	0.7	4.2	2.2	0.4	2.2
Storey	3,399	1.4	0.4	0.3	2.1	1.1	0.2	1.1
White Pine	9,181	3.7	1.1	0.9	5.7	3.1	0.6	3.1

From these data we calculated the surplus/deficit in primary care physical and behavioral health practitioners for each rural/frontier county. The figure below summarizes these results.

Figure 7

County	Primary Care Surplus/Deficit						
	Physical Health					Mental Health	
	FP/GP/ GIM/Phy. Extenders	Peds	OB/GYN	Total PCs with Extenders	Dentists	Psychiatrists	Core Mental Health
Carson City	33.0	(0.6)	2.8	35.2	9.5	0.5	104.5
Churchill	3.7	(2.0)	(1.4)	0.3	(4.6)	(0.6)	40.0
Douglas	18.0	(5.2)	(1.1)	11.7	1.2	(1.8)	42.2
Elko	14.6	(1.7)	0.5	13.4	(4.1)	(0.7)	40.9
Esmeralda	(0.4)	(0.1)	(0.1)	(0.6)	(0.3)	(0.1)	(0.3)
Eureka	1.2	(0.2)	(0.2)	0.9	(0.6)	(0.1)	(0.6)
Humboldt	2.6	(2.0)	(1.6)	(1.1)	(1.6)	(0.2)	0.6
Lander	1.6	(0.7)	0.4	1.3	(1.6)	(0.1)	0.1
Lincoln	1.1	0.5	(0.4)	1.1	(0.8)	0.7	6.6
Lyon	0.9	(4.3)	(3.5)	(6.8)	(8.4)	2.0	61.5
Mineral	4.5	(0.6)	(0.5)	3.4	(0.9)	0.7	5.3
Nye	10.0	(2.1)	(3.2)	4.7	(8.1)	(1.2)	7.2
Pershing	1.1	(0.8)	(0.7)	(0.4)	(0.2)	(0.1)	1.8
Storey	0.1	(0.4)	(0.3)	(0.6)	(1.1)	(0.2)	0.9
White Pine	6.7	(0.1)	0.1	6.7	(1.6)	(0.3)	7.9

Using the information summarized in the above surplus/deficit figure we identified the following gaps in workforce.

a. Physical Health

Our assessment indicates that the total supply of primary care providers across all rural/frontier counties and clinical areas suffers from their distribution, particularly when local geography, population density, and travel time are taken into account. Virtually every county has a deficit in pediatricians and obstetricians/gynecologists. This finding is consistent with actual experience as indicated by community meetings and stakeholder input. However, to the extent that family/general practice or general internal medicine physicians and physician extenders see children for their routine needs, the pediatric shortages may be mitigated.

Lyon, Pershing, and Esmeralda Counties have a clear deficit for primary care doctors with extenders. However, Lyon County neighbors Carson City, Douglas, and Washoe Counties. Approximately 30 percent of Lyon County's population lives within 15 miles of Carson City. Given this population distribution, it makes sense to look at these two counties together in assessing workforce gaps in Lyon County, since it is likely that practitioners in Carson City are serving some Lyon County residents. It appears that Carson City has enough practitioners to cover the deficit in Lyon County. However, outside the proximate population centers, shortages still exist.

Pershing and Esmeralda Counties have no neighboring counties to make up the deficit. Given the population distribution of these counties (population in Pershing County is concentrated in Lovelock; in Esmeralda, the population is widely dispersed), and the fact that there are no primary health care facilities in neighboring counties, many residents of these counties do not have even marginal access to care.

Nye County shows a surplus in providers; however, since the County covers approximately one-sixth of the State and is next to Las Vegas, it was important to look below the county level to assess any gaps. Approximately 80 percent of Nye County residents live in Pahrump, 5 to 7 percent live in Amragosa Valley or Beatty (all three towns encompass an area of 1,750 square miles), and 8 percent (approximately 2,523 people) live in Tonopah. The State licensing board indicates that there are 25 primary care doctors with extenders in the County. However, the survey of health facilities indicates that one primary care doctor and one physician assistant practice at the NVHC clinic in Amragosa Valley and one physician assistant practices at the NVHC facility in Beatty. Stakeholders indicated that the majority of practitioners work in Las Vegas, not Nye County. LECG does not have definitive data that establishes where the remaining population in Pahrump obtains care; anecdotal evidence suggests the primary source of care for Pahrump residents is Las Vegas, two hours away. Tonopah residents are likely receiving primary care services from Nye Regional Medical Center in Tonopah. Nye

Regional Medical Center reported one full time internist, one temporary family/general practice doctor, and one part-time family/general practice doctor.

b. Dental

The same data issues arose when assessing the number of practicing dentists in each rural/frontier county. We first obtained a list of licensed dentists from the State licensing board. We next compared those numbers to figures from the ORH. The ORH updated the licensure data by conducting a survey to determine which dentists are actually practicing where they are registered. Due to ongoing discrepancies between the Board's registry and the survey results, the ORH continues to have limited confidence in its final figures.[48]

Churchill, Elko, Humboldt, Lander, Lyon, Nye, Storey, and White Pine Counties have clear deficits in their supply of practicing dentists. Only Carson City and Douglas counties appear to have a sufficient number of dentists. Lyon and Nye Counties have the same issues with dental services as with physician services. That is, Lyon is in proximity to Carson City, thus it is likely that dentists in Carson City serve some Lyon County residents, and Nye County's large size requires a below the county-level analysis. Dentist information below the county level for Nye County was not available. Churchill County shows a deficit. Storey County residents live within 60 minutes of Reno/Sparks/Carson City. It is likely that most Storey County residents travel to Sparks or Reno for dental care. These findings are consistent with stakeholder, community resident, and State agency experience.

Anecdotal information indicates an additional problem with dental provider supply. Many dentists will not see Medicaid patients. In fact, Medicaid recipients

[48] Nevada Rural and Frontier Health Data Book, 2002 Edition, Nevada Office of Rural Health, University of Nevada, School of Medicine, July 2002. Carson City is not included in this data source.

reported traveling up to 125 miles each way to see a dentist, as well as waiting two to four months for an appointment.

c. Behavioral Health

Behavioral health practitioner supply and demand is very deceiving. Numerically the State licensure board's registry of supply matches the demand for psychiatrists in all rural/frontier counties. Statistics also indicate a significant surplus with respect to core behavioral health practitioners when one considers only the size of the population. However, all other sources of information and State agency hiring experience indicates that the number of practicing practitioners is far fewer. At the county level, 11 of 15 counties have a shortage in the number of psychiatrists. Thirteen counties have sufficient licensed core behavioral health professionals, but practicing numbers are far less. Again, the use of population-based standards can be misleading. In no county did anecdotal evidence or survey data indicate a sufficient supply of behavioral health professionals. For example, although the number of licensed social workers (see Figure 5B: Current Primary Care Supply: Mental Health), appears ample in several counties, State agency experience show otherwise, specifically in Elko and Lyon Counties. DMHDS reported an inability to fill positions with qualified practitioners.

d. Conclusions

The gap analysis for physical health physicians, dentists, and behavioral health practitioners paints a complex picture. A summary-level interpretation is that overall supply and demand appear reasonably in balance (Figures 5-7), and shortages tend to be limited to specific counties or specialties (pediatrics and obstetrics). However, when the State licensure data are reconciled with surveys conducted by LECG, the ORH, and other State agency information, the picture appears far worse. Anecdotal and stakeholder input was usually consistent with the survey and State agency data.

Finally, the primary purpose of this analysis is to highlight any potential needs for additional practitioners throughout rural Nevada. However, for planning, assessment, and monitoring purposes, the State clearly needs an up-to-date, centralized database for practitioner information and other health care data.

In addition, access and availability of health care professionals does not equate to people actually receiving services. Anecdotal evidence suggests that although facilities and personnel are available, rural/frontier residents are not always able to make use of existing resources. The most glaring example of this is the lack of acceptance of Medicaid patients by dental providers. LECG reviewed the Medicaid payment rates for dental services. While rates are not what dentists receive from private pay patients, the Medicaid rates are higher than those paid by contiguous states' Medicaid programs and are among the highest in the country.[49]

3. Health Services and Economic Sustainability

The health care industry has several distinguishing features. It is capital and regulation intensive, and experiences frequent technical innovation. There are various cost pressures, some of which are caused by the need to keep up with technical innovation. There are scarce skilled human resources. These factors require a mechanism for aggregating, organizing, deploying, and managing these diverse resources and skill sets. Today, and for the 10 year planning horizon, each community must determine its own goals and priorities. Available infrastructure must be supported in a collaborative, not competitive, manner. The objective of the rural health strategic plan is not just yearly solvency, but long-term self-sustainability of health care services in the community.

[49] Mercer confirmed that Nevada's dental payment schedule is among the highest of its client base, which includes over half the U.S. states.

Hospitals are the core health care facility in most rural communities. Thus, LECG considered it important to evaluate the long-term sustainability of these hospitals as a proxy for all the health care services in the community. LECG measured various financial risks at these institutions. We then categorized hospitals as "stable," "moderately stable," or "at risk".[50] A stable hospital is one with consistently strong operating performance and appears able to generate most or all monies needed for capital reinvestment. Outside economic assistance (if any) will likely be limited to unforeseen capital-intensive demands. A moderately stable hospital usually achieves positive results. When ad valorem taxes are considered, these hospitals are able to make most capital investments, but may require modest, periodic capital infusions to keep current with advances in technology/equipment and/or regulatory requirements. Finally, a hospital is categorized as "at risk" based on a record of consistently poor or marginal financial outcomes. Over time, these hospitals will likely require sustained financial support (operating and capital) due to operating losses and/or an inability to fully fund capital needs.

The financial condition of most of Nevada's rural hospitals is often tenuous. One event can, and often does, make the difference between positive and negative financial outcomes. Examples include the loss of one physician, the departure of one major employer from the community, or a State budget shortfall that unexpectedly reduces payment sources. Recent major increases in premiums for employee health insurance through the Public Employee Benefits Program will create significant operating losses for six rural hospitals, wiping out gains achieved by critical access hospital designations. The gains and losses that result from State and federal actions are seen as major issues for rural hospitals, which need a more predictable and consistently supportive operating environment in order to achieve financial stability and provide on-going access to services.

[50] Hospitals may change categories over time, given the potential inherent volatility of smaller facilities.

In assessing hospitals' financial viability, the consulting team reviewed various performance measures from 1998 through 2001. We looked at total and operating margins, depreciation expense, days cash on hand, times interest earned ratio, and average property, plant, and equipment age. Each measure provides a different insight into the financial viability of a hospital.

- Total and operating margins provide measures of a hospital's profitability. Total margin measures the profit a hospital makes from its operations and from other sources, e.g., its investments, expressed as a percent of total revenues. Operating margin represents the hospital's profit solely from its operations. Generally, the higher its margins, the better the hospital's financial condition.
- Depreciation expense is the amount of monies that each hospital theoretically puts aside to fund building and equipment that will eventually need to be replaced. This is relevant because hospitals can expect to regularly replace equipment, and eventually more durable equipment and buildings.
- Day's cash on hand represents the average number of days that such monies are available to meet daily expenses. It is a measure of both liquidity and how quickly a hospital spends its available cash, a measure of spending velocity. A hospital that is spending at a high velocity with limited cash on hand may experience some financial constraints.
- Times interest earned ratio is annual operating income as a percent of the annual payments that the hospital makes to service its debts. Thus, at 100 percent, the hospital is making enough in operating income to cover only its annual payments made toward debt. Practically speaking, a hospital whose ratio is 100 percent would not be making enough income to sustain itself in the long-run. Thus, the higher this number, the better the hospital's financial condition.
- Average property, plant, and equipment age gives an idea of how new, or conversely, how old are a hospital's facilities and equipment. This provides a sense of whether a hospital is routinely investing in property, plant, and equipment to keep it current (both clinically and in the consumer's eye).

One must look at all the measures together to gain a complete view of the financial viability of a hospital.[51] In addition to reviewing the above financial figures,

[51] We primarily used data from NRHP and HospitalBenchmarks.com when data were unavailable elsewhere.

additional information and insight was obtained on many hospitals from NRHP. The results of this analysis are summarized below:

Stable Hospitals

- Carson-Tahoe (Carson City)
- Churchill Community (Fallon; Note: Currently for sale)
- Northeastern Nevada Regional (Elko)
-

Moderately Stable Hospitals

- Battle Mountain General (Battle Mountain; Operation loses money but receives ad valorem rate)
- Humboldt General (Winnemucca; Currently receives ad valorem rate, but local tax support may end)
- Incline Village Community (Incline Village; Loses money but has favorable demographics and ownership)
- South Lyon Medical Center (Yerington; Long-term care unit recently updated but acute care unit is older. Ad valorem tax rate restricted to capital only)
- William Bee Ririe (Ely; Near "stable" status but the plant, property and equipment age is high)
-

At Risk Hospitals

- Grover C. Dils Medical Center (Caliente; Has old plant and trouble making capital investments)
- Mount Grant General (Hawthorne; Ad valorem rate helps, but County population is decreasing and the capital needs are increasing)
- Nye Regional Medical Center (Tonopah; For profit)
- Owyhee Community Health (Owyhee; IHS facility)[52]
- Pershing General (Lovelock; Ad valorem rate helps but not sufficient to stabilize)

[52] Data were not available for this facility, but by speaking with stakeholders, we came to the conclusion that this is an at risk hospital. For example, within a six-month period, it has had a 300 percent turnover rate in the hospital administrator position.

4. Population Access Standards and Current Gaps

In our effort to identify projected gaps in availability and accessibility of health care services in rural/frontier Nevada, LECG sought to determine the percent of the population that currently has access to services within a reasonable time/distance. We gathered information on the location of tertiary, secondary, and primary care facilities serving each rural/frontier county in the State. We then mapped each facility, drew a coverage area around each by time/distance to that facility, and estimated the percent of rural/frontier population that is currently covered within each area. LECG added together the population covered in each area to get a cumulative total percent of rural/frontier population covered by such facilities. That is, we sought to determine the percent of rural/frontier population that was a reasonable distance from each type of facility. LECG determined a separate coverage area for tertiary, secondary, and primary care. We then compared current coverage percentages to access standards set by the Task Force.

a. Tertiary Health Services

To evaluate the availability and accessibility of tertiary health care services, the consulting team first looked at the acceptable standards set by the Task Force: three hours for a planned event for 90 percent of the rural/frontier population and one hour for an emergency for 90 percent of the population. We determined how the current tertiary centers satisfied those standards. See Appendix R for service coverage maps.

Results of our analysis show that two-thirds of the rural/frontier population has access to a tertiary center within three hours driving time, while only one-third of the rural/frontier population has access to a tertiary center within one hour driving time. That is 24 and 57 percent shy of the Task Force's acceptable standards for a planned event and an emergency, respectively. However, when LECG estimated the percent of rural/frontier population that would be covered by a three hour and one hour flying time,

we found 100 percent and 83 percent of the population covered, respectively. When weather and equipment availability are taken into account, access may be reduced significantly.[53]

b. Secondary Health Services

To access secondary services, LECG looked at the standard set by the Task Force; 45 minutes driving time for 90 percent of the rural/frontier population. We then reviewed how current hospital locations satisfied those standards. See Appendix S for service coverage maps.

We first looked at each hospital in rural/frontier Nevada, as well as hospitals outside Nevada that might serve rural/frontier counties. Since ambulances can provide some secondary care services (at least on an intermediate basis while transporting a patient to a facility), we then added locations from which ambulance services are available 24 hours a day. Results of our analysis show that, from existing hospitals, a 45 minute drive-time covers 61 percent of the rural/frontier population, 29 percent shy of the Task Force's standard. Including the five proposed hospitals in Gardnerville, Pahrump, Overton, Mesquite, and Wendover captures an additional four percent, bringing coverage to 65 percent of the rural/frontier population.[54] Including locations from which ambulance service is available increases coverage to 80 percent. However, when LECG estimated the percent of rural/frontier population that would be covered by a one hour flying time, we found 83 percent of the population covered. When weather and equipment availability are taken into account, access may be significantly reduced.[55] See Appendix S for maps of coverage by existing hospitals alone, by existing hospitals and proposed new hospitals, and including ambulance service sites.

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[53] Using the mapping software, an average flying speed of 135 mph was used.

[54] Over 25,000 additional individuals are covered by the Pahrump location alone.

[55] Using the mapping software, an average flying speed of 135 mph was used.

The major underserved areas[56] at the proposed access standard are:

- Churchill (approximately 4 percent of rural/frontier population)
- Humboldt (approximately 2 percent of rural/frontier population)
- Elko (approximately 1.5 percent of rural/frontier population)

These counties represent the areas where improvement to current access could have the most impact.

c. Primary Care Services

The standard for primary care services set by the Task Force was one hour travel time for 90 percent of the rural/frontier population. LECG then reviewed how the current primary care facility locations satisfied this standard, examining physical health primary care facilities separately from behavioral health facilities. See Appendix T for service coverage maps.

(1) Physical Health

When reviewing primary care facilities, the consulting team first looked only at community health centers (CHCs) and rural clinics[57] in rural/frontier Nevada. We then plotted each location on a map and determined a one hour drive-time area around each location. We then added tribal health clinics to see how much further service coverage would be expanded.[58]

Results of LECG's analysis show that from existing CHCs and rural clinics, a one hour drive-time covers 78 percent of the rural/frontier population, 12 percent shy of the

[56] Most identified underserved areas include people just outside the standard catchment areas who otherwise have no access to care.

[57] In looking at rural clinics, LECG considered clinics that were not, strictly speaking, licensed by the Bureau of Licensure and Certification as a "rural clinic" but that we understand provides primary care services.

[58] Though tribal health clinics do not usually serve non-Native Americans, the consulting team added them in the second stage of our analysis in an effort to see what added coverage could be available.

Task Force's standard. If tribal health clinics were to provide access to all rural residents, coverage would increase to 89 percent of the population. See Appendix T.

LECG found two locations (Yerington and Ely) where more than one primary care health facility covers the same population. In these cities, a tribal health clinic and a rural clinic are located in the same place. This is important to note because efficiencies can sometimes be gained by joining facilities that perform the same or similar functions.

(2) Behavioral Health and Substance Abuse

LECG first looked at all behavioral health facilities. Our analysis found that a one hour drive-time covers 81 percent of the rural/frontier population, nine percent less than the standard set by the Task Force. Please note, that because of critical staffing shortfalls, the existence of clinics does not necessarily assure that staff are able to provide care on a regular basis. See Appendix T: Primary Service Coverage Maps, 1 Hour Service Coverage from Mental Health Clinics.

The unserved populations at the current standard are:

- Warm Springs (approximately 2 percent of rural/frontier population)
- North Fork (approximately 1.5 percent of rural/frontier population)
- Round Mountain (approximately 1 percent of rural/frontier population)

Treatment of substance abuse is a significant issue in rural/frontier Nevada. LECG looked at behavioral health facilities that provide some level of substance abuse treatment. Of the 16 behavioral health centers, nine provide outpatient substance abuse treatment, one provides outpatient and inpatient treatment, and one provides outpatient and inpatient treatment, as well as rehabilitation and detoxification services. Considering the 11 behavioral health centers that provide some level of treatment, LECG found that 76 percent of the rural/frontier population has access to some substance abuse treatment within a one hour drive-time, 14 percent less than the

standard set by the Task Force. Adding hospitals and tribal health clinics that provide substance abuse treatment does not add substantial coverage.

Three-quarters of the rural/frontier population has access to some level of substance abuse treatment, but most treatment is available only periodically on an itinerant outpatient basis. Only one behavioral health center (Elko), two hospitals (Carson-Tahoe and Owyhee Community Health Facility[59]), and one tribal health clinic (in Gardnerville) provide alcohol rehabilitation and detoxification services. There are additional services provided by some private providers; however, most of these also provide services on an itinerant basis and do not include detoxification and inpatient treatment care for most rural communities. This indicates that there appears to be a significant gap in coverage for comprehensive treatment of substance abuse in rural/frontier Nevada.

5. Emergency Medical Services

There are three attributes that characterize an effective EMS system:

- **First response timeliness** – To be effective, the ground and air-based EMS systems must be able to reach emergent patients in a timely manner. Particularly for cardiac, neurological and trauma cases, the clinical "golden hour" typically marks the time until the patient begins to suffer substantial and irreversible damage.
- **On scene effectiveness** – Arriving on the scene quickly is only the first step in the process. The responding clinician must also be able to appropriately triage and treat the patients they encounter. Because of the time required for secondary and tertiary transport, the ability to treat the "golden hour" patients on the scene becomes particularly important.
- **Clinical continuum integration** – The final aspect of an effective EMS system is to ensure that the patient's subsequent transport and clinical treatment is appropriate and effective. This means getting the patient to the right facility, as quickly and as clinically stable as possible, with an effective triage and treatment protocol waiting to be administered.

[59] An IHS facility.

There are many key issues that must be addressed to develop this level of EMS effectiveness. Drawing from national EMS experience, the work done by the ORH, and input received from the Task Force members and community stakeholders, we identified the most pressing needs for improving the effectiveness of Nevada's EMS. While these reflect consensus issues and priorities, they are not necessarily listed hierarchically.

- **Recruitment and retention** – The Nevada EMS and the local communities report major problems in trying to attract people to serve in a (largely) volunteer service. Indeed, some communities have transport equipment that goes unused because the workforce is not available.
- **Clinical quality** – The pace of clinical advancement seems to accelerate every year and physicians routinely report their inability to keep current with the latest treatments and protocols. However, the flip side of this "knowledge gap" is that once esoteric treatments, once appropriate only for the academic medical center environment, continually filter down as this knowledge becomes more widely disseminated and accepted. Rural communities and their EMS personnel are often overlooked in their potential ability to treat complex clinical conditions.
- **EMS communication system integration** – Significant problems were reported with the currently disparate communications systems being used by ground and air EMS systems and their supporting hospitals.
- **Regulatory relief** – EMS is subject to significant federal, State (and sometimes) local regulations. Often times these regulations no longer reflect the true clinical realities, particularly within the limits of the rural communities.

B. FORECAST OF RURAL HEALTH CARE NEEDS IN NEVADA

1. Introduction

The base case created a model to describe current access to health care coverage and established the benchmark for people covered, the source of their coverage, and the costs of care in rural/frontier Nevada. The following forecast model projects costs and coverage for 2005, 2010, and 2015 to illustrate future finance and demand trends in rural Nevada.

This section provides a description of the forecast model and how rural/frontier populations and expenditures will be affected in 2005, 2010, and 2015. Estimates are also included for each of the categories identified in Figure 1, Chapter II. The numerical results are summarized in Appendix U. Appendix U, Tables 1-3 present estimates of population groups for 2005 through 2015 for all of Nevada and Tables 4-6 present estimates of population groups for 2005 through 2015 for rural/frontier Nevada. Appendix U, Tables 1a-3a explain the costs of care for each group, by the same groupings as Tables 1-3. Again, each of these sets of results provides a forecast of what to expect in the future, barring implementation of any of the recommendations proposed in this report. The balance of the discussion in this section is devoted to rural/frontier Nevada.

2. Components of the Model

The first step in developing the forecast model was to collect forecasted data at the State level. State-level data were then dissaggregated to rural/frontier levels based on population in those areas. The relevant categories for which forecast data were collected are:

- Nevada population
- Under 19 years old
- 19-64 years old
- 65-plus years old
- IHS population

We then dissaggregated these data into sub-groups, such as insured individuals and their source of coverage, by applying the same coverage proportions that existed in the base case for 2000. Once the number of individuals in each sub-category was determined, health expenditures (premiums) for each person in each category were

adjusted upward using the medical care index component of the CPI.[60] To determine health expenditures by category, the number of individuals in each group was multiplied by the average health expenditure per person. Finally, the expenditures per category were summed to total spending on health care for Nevada, as well as for rural/frontier Nevada. All of these components represent what to expect in the future, barring implementation of any of the recommendations proposed in this report. Tables 4-6 in Appendix U summarize the total estimated insured and uninsured populations and the total estimated health care expenditures for 2005 through 2015, for rural/frontier Nevada.[61]

Population information from 2000 to 2015 is summarized for rural and frontier Nevada in Figure 8 below.

[60] This was done for 2005, 2010, and 2015.

[61] As with the base case, total health care expenditures in the forecast model include only consumer expenditures. Thus, estimated health care expenditures in the base case do not include funding sources such as grants, subsidies (e.g., direct payments to hospitals or clinics from local and county governments for unexpected expenditures), expenditures for recruiting and training health care professionals, or out-of-pocket (e.g., co-payments) expenditures from insured individuals.

Figure 8
Total Estimated Rural and Frontier Population by Age, 2000-2015

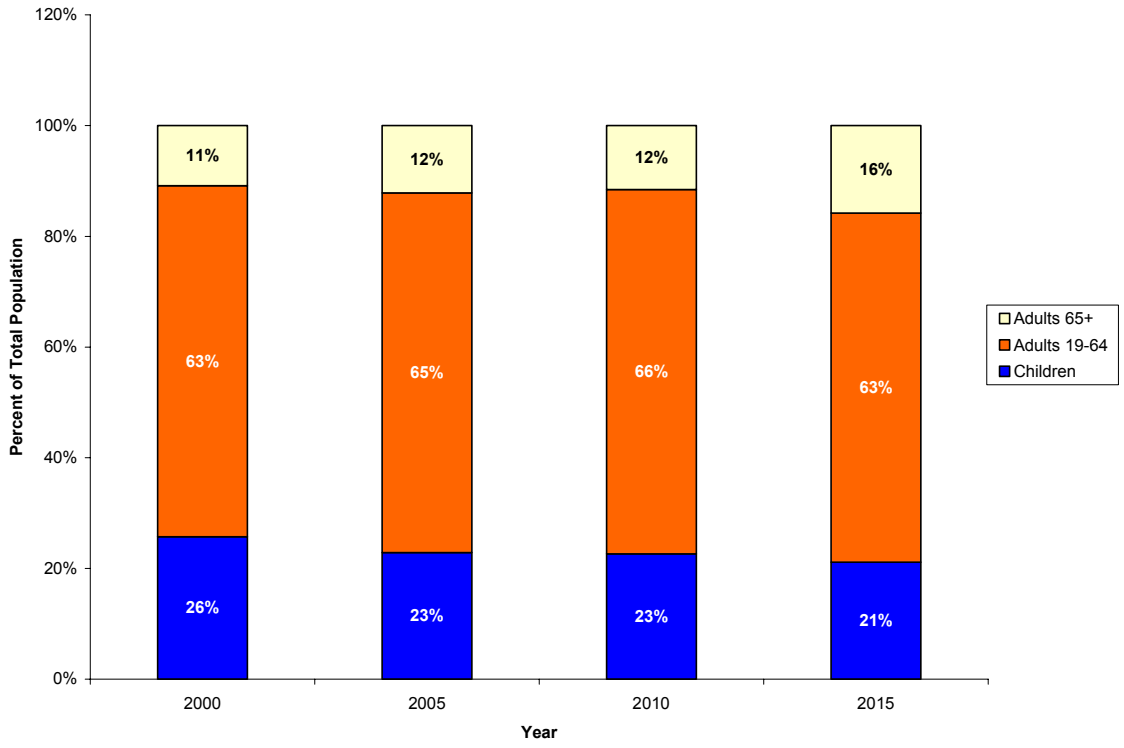
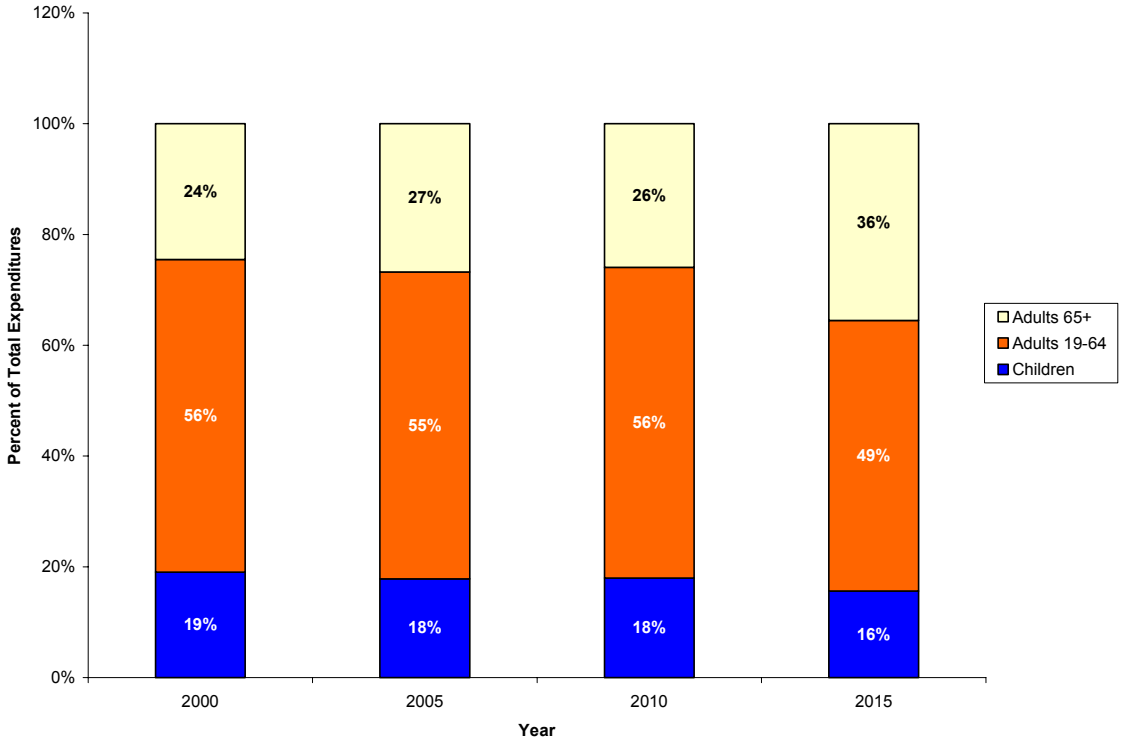


Figure 8 illustrates the increasing age of the rural/frontier population. It is expected that the proportion of children will decrease from 26 percent of total population in 2000 to 21 percent of total population in 2015 and adults age 65 years and over will increase from 11 percent in 2000 to 16 percent in 2015. This increase does not consider the rate of senior citizen migration into the State. This will raise health care expenditures. The following figure shows the expenditure impacts of the changing population and changes in premiums over time.

Figure 9
Total Estimated Rural and Frontier Expenditures on Insured and Uninsured Population by Age, 2000-2015



It is not surprising, given the increasing age of the rural/frontier population, that health care expenditures for adults age 65 and over are expected to increase from 24 percent of total health care expenditures in 2000 to 36 percent of total health care expenditures in 2015.

We looked at the uninsured population to see if expenditures would change as a percent of total expenditures over the period from 2000 to 2015. We found that the proportion of expenditures for this group remained relatively constant over the period. For example, whereas 6.8 percent of total health care expenditures were attributed to

the uninsured in 2000, these expenditures were forecasted at 7 percent, 7.1 percent, and 6.6 percent in 2005, 2010, and 2015, respectively. Consistent with an aging population, we found that Medicare expenditures increase from 27 percent of total expenditures in 2000 to 29 percent in 2005, 28 percent in 2010, and 37 percent in 2015. The proportion of expenditures from rural/frontier Nevadans receiving employer-sponsored insurance is estimated to decrease from 53 percent in 2000 to 44 percent in 2015.

a. The Insured

(1) Government-Sponsored Insurance

(a) Medicaid

Based on the historical trend, the total proportion of rural/frontier Nevadans covered by Medicaid remains relatively constant over the period from 2000 to 2015, changing only slightly from 5.8 percent to 5.4 percent of the total rural/frontier population. Acute care expenditures change from 3 percent of total health care expenditures in 2000 to 2.8 percent in 2015.

(b) Medicare

Based on the historical trend, the total proportion of rural/frontier Nevadans covered by Medicare changes from 12.5 percent of the total rural/frontier population in 2000 to 13.8, 13.1, and 17.3 percent in 2005, 2010, and 2015, respectively. Total Medicare expenditures change from 27 percent of total health care expenditures in 2000 to 29, 28, and 37 percent in 2005, 2010, and 2015, respectively.

(c) Military/Veteran

The employer-based category includes people in military service and those receiving VA health insurance benefits. The model distinguishes between enlisted/veterans, spouses, and dependents receiving coverage. This population is also

segmented by age group. The total number of Native Americans that serve in the armed forces is based on the relative weighting to total population used in the base case. These percentages are then applied to the IHS population in Nevada. Finally, this population is further segmented into rural/frontier Nevada based on regional (i.e., urban, rural, and frontier) weights. Expenditures per beneficiary were determined using data provided by the VA for 1999 and projected forward using the medical care index component of the CPI.[62] We estimate that the proportion of military and Veterans population and expenditures remain relatively constant with only a 0.3 percent increase in population and a 0.3 percent increase in expenditures from 2000 to 2015.

(2) Employer-Based

As in the base case, the employed portion of the labor force[63] was categorized into 10 industry sectors and by five different firm sizes. Relative distribution of the total employed labor force by county was held constant; in other words, we did not continue any expansion or contraction trends.

Employer-based insurance remains the primary source of coverage for rural/frontier Nevada residents in the future. In the forecast model, we assume the same parameters as were used in the base case:

- The number of employees that are offered insurance (offer rate)[64]
- Which employees are eligible (usually full-time, not part-time employees)[65]
- How many eligible employees accept coverage (acceptance rate)[66]

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62 Veteran Affairs. "Distribution of VA Expenditures for Fiscal Year 1998." The 1998 expenditure per capita is adjusted by the medical care CPI to reflect the estimated cost for 2000.

63 Nevada Department of Employment, Training & Rehabilitation, "State of Nevada 2000 Covered Employment Distributed by Month and County." Also, Bureau of Labor Statistics.

64 AHRQ, MEPS, Table I.B.2.

65 AHRQ, MEPS, Table I.B.3.b.

66 Percent of employees eligible for health insurance that are enrolled in health insurance at establishments that offer health insurance. AHRQ, MEPS, Table I.B.3.b.(1).(a).

- For how many dependents the employee is purchasing health insurance[67]

(a) Private-Sector and Government Employees

We estimate that the proportion of total insured persons through government and private-sector employer-based insurance in rural/frontier Nevada decreases from 54 percent of total rural/frontier population in 2000 to 51 percent in 2015. Expenditures steadily decrease from 53.5 percent of total expenditures in 2000 to 51.8, 51.1, and 43.7 percent in 2005, 2010, and 2015, respectively.

(i) Eligible for Coverage

Although not reflected explicitly in the summary tables in Appendix U, the tallies of covered employees, their dependents, and their costs depend on several other sets of assumptions that are driven by the employees' eligibility for coverage and their choice to enroll in coverage.

(3) Other Private Insurance

Another category outlined in the model includes individuals who purchased private insurance outside of employer-based programs. The total proportion of persons purchasing other private insurance in rural/frontier Nevada was estimated to decrease from 7.7 percent of total rural/frontier population in 2000 to 7.5 percent in 2005, increase slightly to 7.6 percent in 2010, and decrease to 7.2 percent in 2015.

Premiums in this category were brought forward using the medical care index component of the CPI. Similar to population change, total expenditures in this category as a percent of total health care expenditures decrease from 6.7 percent in 2000 to 6.4 percent in 2005, increase to 7.7 percent in 2010, and decrease to 6.3 percent in 2015.

[67] Estimates for household factors were provided by Mercer Government Human Services Consulting.

b. The Uninsured

Total uninsured increases in absolute terms but remains constant between 20 and 21 percent of the total rural/frontier population from 2000 to 2015.

(1) IHS

Census data were used to determine the estimated number of individuals covered by IHS. In this analysis, Native Americans are counted as uninsured if IHS coverage is their only source of care. This decision is based on the fact that IHS is considered payer of last resort after all other payers. We estimated that the percent of the IHS population that is not covered by insurance changes from 1.7 percent of the total rural/frontier population in 2000 to 2.6, 2.5, and 2.1 percent in 2005, 2010, and 2015, respectively. Expenditures for these individuals as a percent of total expenditures is expected to increase from 0.8 percent in 2000 to 1.3, 1.3, and 1.1 percent in 2005, 2010, and 2015.

3. Forecast Demand for Health Care Providers

Given the apparent overall current demand for primary care personnel in rural/frontier Nevada, we estimated when and in what quantities new personnel would need to be supplied in aggregate into the health care profession in order to keep up with demand, i.e., population growth.

LECG calculated the forecast total demand in primary care personnel in the rural/frontier region through 2015. We then compared the estimated demand in 2005, 2010, and 2015 against the current supply to see if/when overall supply would need to be increased to meet the increase in demand. Our analysis found that, on its surface, aggregate supply (i.e., the total number of practitioners by each type of practice) is sufficient for some specialties through 2015. Shortages appear in the number of

primary care specialists, pediatricians, obstetricians/gynecologists, dentists, and psychiatrists on or before the year 2005. [68]

As mentioned previously, 14 of the 15 rural/frontier counties in Nevada are designated as behavioral HPSAs by DHHS. Similarly, 10 whole counties and 2 partial counties in rural/frontier Nevada are designated as dental HPSAs. Finally, 11 rural/frontier counties are wholly designated and 4 rural/frontier counties are partially designated as primary care HPSAs. The county and regional level forecasts are better testimony to the lack of good, local data than to true demand.

In some cases the solution may be to reallocate personnel rather than simply increase their numbers. In those cases where aggregate supply is insufficient and shortages exist at the county-level, the solution may be to both increase aggregate supply and reallocate existing resources. For example, our analysis shows that there is a shortage of dentists at the aggregate level; HPSA standards also show a shortage in many rural/frontier counties at the county-level.

C. UNDERSTANDING THE FISCAL IMPLICATIONS OF GOALS AND STRATEGIES

This section describes the kinds, possible costs, numbers of people affected, and potential economic impacts that will be seen if the goals and strategies proposed by the Task Force are adopted. This discussion is not a health care reform model for Nevada. Rather, it is intended to assist DHR in presenting the preferred set of options to the Governor and the Legislature.

From a cost perspective, we are conservative in our models. We did not want to understate the possible costs of significantly increasing access. The predicted costs to individuals, employers, and government are probably higher than the final analysis will

[68] It is important to note that though surpluses remain at a rural/frontier region level, imbalances may exist within particular counties. This again reinforces the idea that one solution may be distribution of resources.

reflect. We did not factor in expected savings to individuals for out-of-pocket expenses they currently incur when they are uninsured, nor did we factor in potential charity care savings to providers, insurers, and other payers. There are two important side effects of conservative cost estimates. Predicted employment impacts of increased spending on health care services and the number of people that will be covered under each scenario are somewhat inflated over what would be expected.

Specifically, the analysis will provide expected impacts on:

- Access to insurance
- The cost of care for individual purchasers, taxpayers, employers, and government – local, State and federal
- Employer-based systems
- The private-sector health insurance industry
- Reductions in cost-shifting of care to payers due to high levels of charity care
- The State's economy in general – with analyses of direct and indirect impacts (financial and employment) by industry and by geographic region of the State

1. Modeling the Impacts of Implementing the Goals, Strategies, and Action Items

This section outlines the issues involved with modeling various scenarios.

a. Pooling Risk in an Employer-Based Health Insurance System

Health insurance costs are determined by a number of factors. Among them are several that can be used to reduce the overall costs of health insurance, including:

- Pricing of health insurance is a probabilistic science
- Large groups of people (risk pools) are easier to price accurately than small groups
- People who need health care are more likely to purchase insurance
- Healthy enrollees subsidize "sick" enrollees in the risk pool
- The young subsidize the old

Health insurance pricing is always subject to error. Because we do not know the future, we cannot perfectly predict the demand for health care. Entities that price health insurance never have complete knowledge of enrollees' past need for health care services, and they never know when a catastrophic event, such as a car accident, a heart attack, or an earthquake, can create an unexpected demand for care. Actuarial science and common sense have taught us that the best predictor of future demand is the past experience of the "population" being priced. Therefore, groups of employees that have had insurance for some time are easier to price than new groups. The next best predictors are personal characteristics of the people being insured. This explains why age, gender, and underwriting are used to establish rate cells and eligibility requirements for enrollees. However, pricing is always subject to variation. In some years insurers make a profit, and in other years they suffer a loss.

Because pricing is subject to error, insurers must hedge their business risk by building in a price factor to cover unexpected costs. As the size of the group increases, the actual costs of providing health care comes closer to the average expected cost. This means that larger groups of enrollees can usually be more accurately priced than small groups, and, therefore, the error factor can be reduced. This explains part of the reason why small groups are generally more expensive to insure than large groups for a comparable set of benefits.

People who need health care are more likely to purchase insurance. This factor provides most of the rest of the answer to the question of why small group and individual health insurance is generally more expensive than insurance for large employer groups. The small group or individual risk premium can equal 20 to 30 percent of the total premium.[69]

[69] This estimate is based on our experience pricing small and large group markets in the U.S. and abroad.

For health insurance to work, healthy individuals must subsidize the health care costs of the unhealthy. The young must also subsidize the old. This is based on the fact that young people tend to be healthy and older people tend to need more health care.

Because employer-based insurance tends to segment the subsidy of young for old (except for retirement benefits, which are less than adequate), government intervention has become the vehicle to assure that the subsidy occurs. Arguably, this is the basis for the federal government's administration of Medicare. Through Social Security and the Medicare taxes, government is able to spread the cost of the majority of old age health care expenses across generations, effectively assuring the young to old subsidy.[70]

b. Offer and Acceptance Rates of Health Insurance Coverage

In general, higher health insurance rates are observed in states with high unionization, greater per capita income, and a greater prevalence of large firms. Acceptance of and enrollment in an employer-based program is influenced by a number of factors, including age, income, and health status.

2. Consumption of Services

When previously uninsured individuals become insured, there are various effects on the regional health care industry and economy:

- Utilization patterns of services may shift
- Greater expenditures on health care may reduce the amount spent on other goods and services

[70] A similar argument can be made for government administration of health care for low income and other needy people. In every case, the income subsidy is from those whose expenses are low and/or income high to those with the opposite characteristics. Furthermore, the assumption is that government is in the best position to implement the transfer.

- The demand for more services in the health sector will affect the economy of the region

a. Utilization Patterns

In general, newly insured individuals consume more health care services once they obtain coverage. This is known as pent-up demand. However, on average, the newly insured consume fewer services than persons who have been covered for a long time.[71] The newly insured may have relied previously on "last resort" care, such as high-cost ER or urgent care center treatment. Once covered, they will most likely begin to visit primary care physicians, who may become their usual source of care. This may lead to more office visits, access to specialists, prevention efforts, etc. If the insured falls ill, they have a smaller (or none at all, in the absence of copayments) financial barrier to accessing services when visiting a physician. Therefore, they are more likely to seek treatment rather than wait for the illness to pass. Providing health insurance to an individual may also lead to an increased risk of "moral hazard". In other words, since an individual does not have to pay the full cost of a service, they may be more inclined to access the service even when it is not necessary.

Increasing insurance coverage may also affect a person's choice of health care provider. For example, previously uninsured individuals may have relied on community clinic facilities. Once covered, these individuals may switch from consulting a community clinic practitioner to seeing a private practice physician.

3. The Effects on the Economy of Increased Expenditures on Health Care

There are competing effects of increased expenditures on health care. Holding all other factors constant, the most common effects are:

[71] Flynn, P., Wade, and Holahan, J.. "State Health Reform: Effects on Labor Markets and Economic Activity." *Journal of Policy Analysis and Management.* 16 (2): 219-236 (1997).

- Greater economic activity in the health sector and industries that supply the health care industry, for example, food services, utilities, textiles, etc.
- Reduction in the amount invested, saved, or spent on other goods and services
- Diversion of resources from other parts of the economy unrelated to the health sector, decreasing employment and output in certain sectors, while increasing them in others
- Reduced reliance on unreimbursed, charity care
- Improved health status, resulting in higher worker productivity and lower rates of worker absenteeism; and higher individual earnings that result in greater demand for goods, services, and savings/investment opportunities in the general economy

The characteristics of spending and the particular region will determine the overall economic impact. However, even if some employers' output is reduced, greater economic activity in the health sector and related industries will usually offset the effect. If a significant portion of the funds to pay for the increased expenditure on health care come from outside Nevada (the federal government usually), the net impact on the Nevada economy, and in turn rural/frontier Nevada, will almost certainly be positive.

a. Charity Care

Reducing the number of uninsured persons in rural/frontier Nevada will decrease reliance on charity care. In general, the cost of providing charity care to the uninsured is shifted to the insured in the form of higher premiums. From the provider's perspective, when more individuals are insured, a physician may now be reimbursed for the time spent on the same patients for whom he or she was not reimbursed before. This suggests that once uninsured individuals gain coverage and decrease charity care use, the insured will recoup the amount previously spent on charity care. However, past evidence shows that the entire savings will not be shifted back to the insured. A large part of the newly compensated care will remain in the health care system in terms of payments to providers, insurance companies, and industry suppliers. Some estimates place the effective decrease in premiums at five to ten percent, depending on the extent and nature of charity care replaced. Empirical evidence suggests that the savings will

not be seen in the form of premium reductions, rather in lower rates of future premium increases.

b. The Returns of Increased Spending on Health Care

In rural/frontier Nevada, the estimated returns of increased health care expenditures are high because of the skilled nature of health related jobs that would be created. Although many of these effects are difficult to quantify, there are some economic models that attempt to estimate them. The following estimates were performed using the U.S. Department of Commerce (DOC) impact estimators known as RIMS II.[72] The input-output (I-O) table uses data from the Bureau of Economic Analysis, which consist of wages, salary, and inputs purchased and outputs sold for each industry. The RIMS II multipliers are usually used to estimate the impacts of changes in program/project expenditures. The DOC estimates that for each new dollar of services delivered by the health care industry to consumers in rural areas with comparable economies:

- Overall output from all industries in rural areas would increase by $2.01[73]
- Overall household earnings would increase by $0.79[74]

The DOC estimators also indicate that for every one million dollars of new spending in the health care industry, 30.0 [75] new jobs would be created. None of the estimates above include the effects of greater worker productivity or higher individual earnings resulting from improved health status.

From the perspective of the labor force, for each dollar increase in earnings paid directly to households employed in the health sector, overall earnings for households in

[72] DOC's results are published in the Regional Multipliers Handbook.

[73] RIMS II Multipliers, Table 2.4, 1997 Updates. Bureau of Economic Analysis, U.S. Department of Commerce.

[74] ibid.

all sectors would increase by $1.59. [76] Each additional job created in the health sector has been estimated to create 1.86 jobs in the State's economy overall.[77, 78] The Implan Type II multipliers supplied by the Nevada Rural and Frontier Health Data Book 2002,[79] shows the potential impact at the county level of additional dollars in the health sector of the local economy. Appendix V, Tables 1-4 summarize those multipliers for rural/frontier counties for health sector employment and income, and hospital employment and income.[80]

For example, Appendix V, Table 1 indicates that for each additional job created in Elko's local health care sector, another 0.3949 jobs are created in other businesses and industries in Elko County. Similarly, from Appendix V, Table 2, for every additional job created in White Pine's local hospital sector, another .4120 jobs are created in other businesses and industries in White Pine County.

Similarly, Appendix V, Table 3 indicates that for each additional dollar in spending on the local health care sector, income would increase by $1.1373 in Lincoln County and $1.3930 in Eureka County. From Appendix V, Table 4, for every additional dollar in spending on the hospital sector, income would increase by $1.1375 in Lincoln County and by $1.2737 in White Pine County. The overall economic impact of the health care sector on employment and income in rural Nevada (excluding Carson City) is 4,673 jobs and more than $145 million annually.

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75 ibid.

76 ibid.

77 ibid.

78 The two figures in this paragraph represent effects from the perspective of wage earners. It is important to note that they do not represent effects in addition to those presented for industry output levels.

79 The data book is produced by the ORH.

80 Carson City is absent from these tables.

However, these gains must be measured relative to potential losses. A recent study for the State of Oregon found that significantly increasing the number of insured workers would reduce overall employment (the unemployment rate would increase) by 0.06 percent in the short term.[81] Small employers would face increased labor costs of 0.17 percent. Meanwhile, firms that previously provided coverage would experience a two to four percent decline in labor costs, because greater participation in insurance programs would lead to an overall decrease in the future cost of health care premiums. In the long term, the impacts would be less evident, and positive on the economy as a whole, because employers are expected to pass costs on to employees by limiting wage growth.[82]

4. Effects of Increased Health Insurance Coverage On Labor Costs

a. Allocating Increased Labor Costs

Economic theory suggests that firms make decisions that maximize their profitability. Holding all other factors equal, firms in competitive markets are forced to keep costs low to remain in business.[83] Wages and benefits provided to employees are one component of these costs. If these costs rise, firms generally react in the following ways:

- Accept reduced profitability
- Raise prices to consumers
- Pass costs on to employees
- Shift labor utilization patterns to minimize cost impacts

[81] Approximately one year after increasing coverage.

[82] "The Oregon Health Plan Economic Impact Analysis for the Employer Mandate." NERA, February 10, 1995.

[83] For example, in a highly competitive market, prices are reduced until profits are minimal or non-existent (until firms are only covering costs).

These scenarios affect different industries in varying ways. For example, in capital intensive industries, the effects of increased labor costs are lower. Firms that rely more on human capital, specifically a higher-paid, skilled labor force, will be affected less by these benefits costs, because they already provide health coverage to their employees.

Additionally, the characteristics of the labor market where a firm competes for workers will influence how the firm behaves. In markets where the supply of new labor is low, offering health insurance will benefit firms as they attempt to attract workers. These factors are discussed in more detail below.

Finally, a firm's classification within a geographic market may help predict how it will respond to increased labor costs. In general, firms can be classified in one of three basic geographic competition types: local, regional, and international. As discussed below, a firm that faces competition from international firms will respond differently to higher costs than firms whose competitors are primarily from the same local market.

b. Profitability

Reduced profitability results from sustaining higher cost levels while keeping other factors, such as prices, constant. If a firm's costs increase, profits are reduced. Accepting this scenario may not be possible for firms whose profitability is already constrained due to competition. Service, retail trade, manufacturing, and mining industries play a dominant role in rural/frontier Nevada. Generally, firms will exhaust all other options of passing on health insurance cost increases to employees before accepting lower profits.

c. Raising Prices to Consumers

The ability to raise prices varies with the extent and nature of competition in the market. As a general rule-of-thumb, as competitive pressure increases, a firm's ability

to raise prices decreases. Additionally, as competition becomes more intense, firms become more cost sensitive. The geographic range of competition within which a firm operates will also determine whether it can or will raise prices. Firms that are exposed only to local competition will be more apt to raise prices, if all its competitors experience health insurance cost increases and are inclined to raise prices as well.[84] Conversely, firms that compete on an international level (e.g., with national or foreign companies), will find it more difficult to raise prices, because the change in labor costs is less likely to affect all market players unilaterally.

d. Passing Costs on to Employees or Shifting Labor Utilization Patterns

Economic reasoning suggests that, if possible, firms will choose to pass costs on to employees or shift labor utilization patterns rather than accept reduced profitability. As discussed above, the ability to raise prices depends on the competitive nature of the market. When employers face higher health insurance costs, many times they react by making the employee bear the burden of the increase. From 1988 to 1996, total health insurance premiums rose 79 percent and 111 percent for individual and family coverage, respectively. During the same period, the contributions made by employees and their families for this coverage increased 284 percent and 146 percent, respectively.[85,86] Once again, the characteristics of the firm and the type of labor utilized will affect how much of this cost can be transferred. Firms relying heavily on

[84] However, the competition from substitute goods and the price sensitivity of the consumers affected are also factors.

[85] AFL-CIO press release, February 19, 1998, analysis by the Lewin Group, "Paying More and Losing Ground: How Employer Cost Shifting is Eroding Health Coverage of Working Families." [source: http://www.aflcio.org/publ/press1998/pr0219.htm]

[86] Although the increase in single coverage premiums was smaller than the increase in family premiums, the portion employees contributed for single coverage grew at a faster rate. This illustrates the frequently observed phenomenon that individuals purchasing single coverage often subsidize family coverage premiums.

human capital may be less likely to pass on these costs for fear of higher employee turnover and the loss of investments made in these workers.

Characteristics of the labor market will influence company behavior as well. In tight labor markets, firms may be more inclined to absorb the increased costs of providing coverage in order to attract and retain needed workers. Employers face more competition in hiring workers, and therefore, will face more pressure to offer higher wages and/or benefits.

In general the increased cost of providing coverage may lead a firm to:

- Lower wages paid to the employee or raise employee contribution levels
- Make low wage employees work longer hours to avoid hiring additional staff[87]
- Increase reliance on part-time or contracted employees to whom benefits are not paid
- Substitute physical capital or energy for human capital

(1) Effects on Wages

The effects of increased health insurance costs on wages must be viewed in terms of total compensation to the employee. Total compensation can be defined as the sum of wages and benefits received by the worker. As discussed below, in the short term, total compensation to the employee will increase. In the long term, total compensation will return to the trend level expected before benefits costs increased.

(2) The Short Term

In the short term, when coverage is introduced, total compensation to the employee increases, and the employer may realize higher costs and lower profits.[88]

[87] Hiring additional (full-time) workers will increase benefit and wage costs; making high wage employees work more will be costly or unfeasible because of a variety of factors, such as the risk of losing skilled workers, union status, etc..

[88] This assumes that all other production, employment, and market factors remain constant for the firm in question.

Firms generally will not offset this increase in costs by lowering wages paid to the employee. However, wages may not increase for some time (which may effectively result in a decrease in real wages and purchasing power, depending on inflation). A study using Current Population Survey (CPS) data from 1990 to 1993 reported an inverse relationship between insurance levels and wages. The findings suggest that a 10 percent increase in the number of workers with health insurance in an industry causes a $0.45 to $0.55 drop in hourly wages.[89]

Higher costs may discourage the introduction of benefits by some employers. This is especially true in highly competitive markets (where profits are low), and loose labor markets, where hiring new, and retaining current, employees is not a significant problem. This generally occurs during an economic downturn. When finding new employees and keeping them becomes more difficult (e.g., during times of low unemployment), firms may be more inclined to offer benefits in order to attract necessary human capital.

(3) Small Employers

Introducing health insurance and increasing labor costs may have a greater effect on small employers and firms that employ minimum wage workers. These firms may be more likely to reduce the number of hours of employment or the number of employees to lower payroll and avoid paying the cost of benefits. Additionally, these firms may have an incentive to shift labor utilization to temporary, contract, or part-time workers for whom benefits are not provided.

(4) Firm Migration

As discussed above, employers will initially bear the burden of increased costs of providing health insurance. A firm must evaluate short-term survival versus long-term

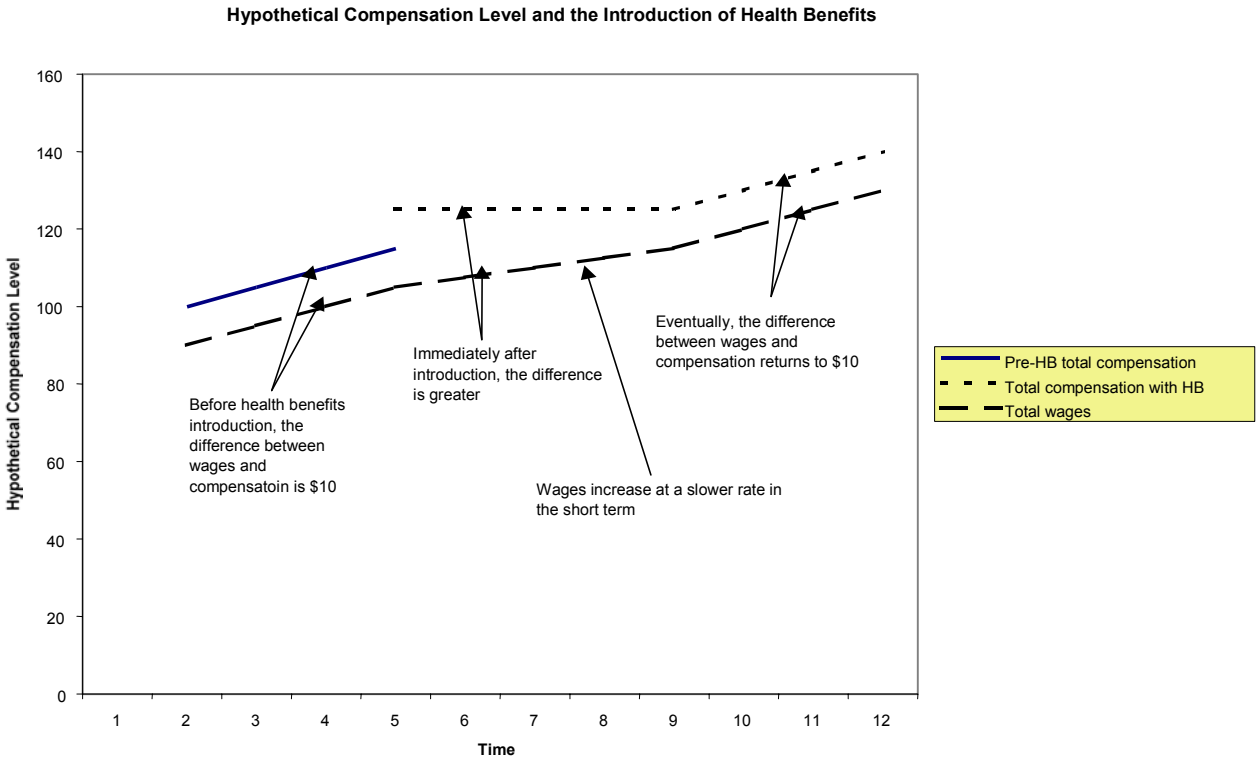
[89] Thurston, Norman K. "Labor Market Effects of Hawaii's Mandatory Employer-Provided Health Insurance." *Industrial and Labor Relations Review.* 51 (1): 117-135 (October 1997).

success. If the firm is in a highly competitive, low profit industry, it may not be able to absorb these costs without incurring heavy losses, going out-of-business, or changing location. For example, exogenous factors, such as "business friendly" conditions in other states or countries (e.g., lower taxes, cheaper land, etc.), may make relocating to these regions more attractive. This will be especially prominent in industrial sectors that rely less on physical and highly trained human capital and more on low-paid, unskilled workers. These firms can avoid increased costs by relocating without significant investment in new resources. Conversely, industries that rely heavily on physical capital (and have unrecoverable costs) cannot move as easily. Firms reliant on highly skilled employees, or those that have made significant human capital investments, will be less likely to leave. Employers in these types of economic sectors are more likely to have health benefits built into their cost structure or be willing to add these benefits to their cost structure.

(5) The Long Term

In the long term, however, total compensation will return to the trend level expected before the "shock" of introducing benefits. Wages will increase at a slower rate than in the pre-introduction period, but the employer's labor costs will eventually return to its previous level. See Figure 10 below.

Figure 10



From the employee's perspective, wages will be lower than the level absent benefits introduction. This shift of costs to the employee would be limited if workers could readily switch to an employer that was not taking on the added costs of insurance, or if the relevant labor market becomes tighter. This switch is directly influenced by the relative value the worker places on health insurance, and specifically, health insurance purchased from his or her employer. If the employee has the option of enrolling for coverage through a spouse, it may be more attractive to switch to a firm that does not offer health coverage, and therefore, is likely to pay higher wages.[90] Additionally, employees' net take home pay, assuming they contribute a portion of their earnings towards the health insurance premium, will decrease. For example, an employee's

[90] This assumes that the two firms being compared are identical, except for the fact that one offers health insurance coverage while the other does not.

salary will normally remain the same immediately before and after the introduction of health benefits. Since employees are usually required to contribute a percentage of the health insurance premium, this amount will be deducted from their paycheck, resulting in lower disposable income. However, the magnitude of this impact will be determined by the amount the employee was spending on health care before he or she obtained coverage.

(a) Increasing the Number of Hours Worked by Low Wage Employees

If a firm is subject to higher health benefit costs per employee, it may be able to mitigate the impact of the increase by requiring workers to work longer hours. For example, if production levels can be increased to cover the increased costs, without hiring additional workers, a firm can spread out the cost of health benefits in its labor-cost structure more effectively.[91] This is a more viable option if the firm employs a large percentage of low wage employees, where the effect of incremental wage payments is relatively small and the production process is labor intensive. It may also be more feasible to increase the use of labor in newer industries, where the best production function, and therefore the most efficient use of labor, has not been discovered.[92]

(b) Increased Reliance on Part-Time or Contracted Employees

If firms are confronted with new or higher health insurance costs, they will behave in a manner that protects profits. When raising prices or passing on costs to employees is not feasible, many choose to shift to a workforce with more part-time employees. In this situation, we assume that part-time employees are not eligible for

[91] This explanation is counter intuitive in that a firm should, holding all else constant, always use its inputs at the profit maximizing level. Therefore, for a firm to increase use of the input when its cost increases, one of two things must be true: (1) as a flat cost change, the cost of insurance causes the actual cost structure faced by the firm to shift, which, in turn, causes the profit maximizing quantity of labor to shift (outward in this case); or (2) the new costs realign the marginal benefit and cost functions of the firm, thereby changing the shape of the production and cost functions.

[92] The opposite is also possible. Since the profit maximizing production level may not be known, the firm may be overproducing (and overutilizing labor) before benefits are introduced.

health care coverage. A firm's ability to do this will be constrained by the availability of and the ability to employ such individuals without sacrificing worker skill, retention, and other firm-specific factors. Employers that rely heavily on human capital or have maximized production capacities, will be more likely to increase reliance on part-time workers.

(c) Reducing the Size of the Workforce

In some instances where a firm cannot cover the increased costs by increasing hours or its reliance on part-time workers, a firm may be forced to reduce its labor force. In this scenario, firms may behave in varying ways, depending on industry and competition-specific factors. This behavior can include going out-of-business (or cutting sections of the company), migrating (discussed above), or increasing reliance on physical capital or energy (discussed below).

The ability to substitute physical capital in the firm's production methods is determined primarily by the nature of a firm's business. For example, sectors such as the service industry may find it more difficult to replace human beings with automated machinery. Other industries, such as manufacturing, may find it relatively easier. However, in accordance with the implicit nature of the firm to maximize profits, this switch may have occurred prior to health cost increases, as labor costs generally represent a relatively high percentage of production costs.[93] If a firm still has more capital-intensive technology available for use, it must weigh the costs of adopting the technology versus paying the increased labor costs.

5. Worker Mobility

The effects of employer-based insurance coverage on attracting and retaining employees vary by the characteristics of the job market in question. In a hypothetical

[93] Of course, this varies by the nature of the good produced and its reliance on factors such as high cost machinery or technology.

scenario where all employers in an area offer the same health coverage, a worker's decision to accept an employment offer or to switch jobs will not be influenced by health benefits. Conversely, in labor markets where insurance coverage levels vary, a worker's decision to seek out or accept new employment will be affected.

6. Job Lock

In a labor market where coverage levels vary, employers offering insurance may witness increased worker retention and better hiring prospects. This phenomenon, which dissuades a worker from switching employers because health coverage may be lost, is known as "job lock". This suggests that employers who offer health coverage, in a region where other employers do not, may reap the benefits of retaining their workers and investments in human capital. These employers are also able to avoid the cost of searching for new employees, potential losses during the period when a substitute worker cannot be found, and the costs of training new hires.

Studies support the finding that health coverage is a significant factor in workforce retention. One study found that the likelihood of male worker job change is ten to 16 percent greater when a worker can obtain coverage through a spouse. The likelihood of female worker turnover is ten to 14 percent greater in the same scenario.[94] Research also suggests that women married to men without health insurance are more likely to work, work 11 to 20 percent more hours, and work at jobs that offer health insurance coverage.[95]

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[94] Black, Dan A. "Family Health Benefits and Worker Turnover." *Employee Benefits, Labor Cost, and Labor Markets in Canada and the U.S.*, W.E. Upjohn Institute for Employment Research. 14, March 1995. [source: http://econwpa.wustl.edu:8089/eps/lab/papers/9604/9604001.pdf]

[95] Gruber, Jonathan. "Health Insurance and the Labor Market." *National Bureau of Economic Analysis*, *Working Paper 6762*, 49, October 1998. [source: http://papers.nber.org/papers/w6762.pdf]

7. Portability

The requirements of the Health Insurance Portability and Accountability Act of 1996 partially mitigate job lock phenomena. Allowing employees to continue coverage after leaving a job may facilitate worker mobility and decrease worker retention. A study based on data from the Survey of Income and Program Participation (SIPP) estimated that continuation requirements increase the probability that males age 25 to 54 will leave their job by 14 percent.[96] This suggests that a significant group of male workers desire to switch jobs and are willing to pay the full insurance premium themselves. It also suggests, however, that more than 14 percent would switch jobs if paying for this premium were not an issue.[97]

8. Mobility and Efficiency

As discussed previously, a firm that offers health insurance when others do not may be more successful in hiring and retaining workers. From a macro-economic perspective, if more firms offer coverage and worker mobility increases, there will be greater efficiency in the labor market at par. The flow of workers from one firm to another would not be regulated by health insurance concerns, leaving other factors such as salary, type of work, and location more determinant. Thus, workers may accept jobs for which they are better suited if they do not have to worry about losing health insurance for themselves and/or their family. Similarly, firms that hire these workers will also benefit, as workers' and firms' demands for the appropriate position may align more closely. Employees who are not inhibited by a lack of health insurance from switching employers may also realize greater economic gains.

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[96] Gruber, Jonathan and Brigitte C. Madrian. "Employment Separation and Health Insurance Coverage." *Journal of Public Economics*. 66: 349-382 (1997).

[97] Although the above cited study did not elaborate on the specific income levels of groups that would switch, generally, higher income individuals are more able to afford the full premium, and also have employer-based coverage.

a. Retirement

Providing health insurance at the workplace may also allow firms to retain their older employees for longer periods of time. Thus, these employers may witness extended returns from investments in human capital. An employer survey found that 63 percent of working Americans would delay retirement until Medicare eligibility if their employer did not provide retirement health coverage.[98] Delaying retirement also extends tax revenue collection from these workers.

9. Conclusion

All of the issues outlined above are relevant to rural/frontier Nevada when analyzing the employer-sponsored health insurance environment. In summary, some of the more salient empirical evidence and economic theory outlined in this section that are most relevant to rural/frontier Nevada are presented below.

Insuring more individuals in rural/frontier Nevada may lead to, among other things:

- Greater economic activity in the health sector (which will in turn affect the entire economy)
- Increased money in the economy, particularly if both private-sector and public-sector programs are used to maximize Federal funding
- Greater worker retention for employers, which may enable them to reap the benefits of investments in human capital for longer periods of time
- Lower health care premium costs across the population
- Overall improvement in average health status of workers and greater worker productivity

[98] In recent years, fewer employers have been offering retirement coverage. A survey of U.S. employers found that 46 and 40 percent of large companies offered health insurance to pre-Medicare eligible and Medicare eligible retirees in 1993, respectively. By 2000, these percentages dropped to 31 and 24 percent. "15th Annual Mercer/Foster Higgins National Survey of Employer-Sponsored Health Plans." [source: http://www.imercer.com/us/imercercommentary/Healthsurvey/BB-final.pdf]

Chapter V presents the Task Force's strategic plan for rural health care and includes the community profile of each rural county.

V. RECOMMENDED GOALS, STRATEGIES, AND ACTION STEPS FOR NEVADA RURAL HEALTH CARE

This section of the report presents the Task Force's strategic plan for improving the availability and accessibility of health care services in rural Nevada. In developing this plan, we have considered the opinions of the stakeholders we interviewed and the rural residents that attended the community meetings or completed surveys. We have also utilized the expertise of Task Force members and the consulting team, as well as initiatives that have been successful in other states.

The chapter begins with a statement of principles developed by the Task Force to help guide the strategic planning process. The principles include elements of the Task Force's policy statement, social contract considerations, and the rationale for supporting specific recommendations.

Both sets of recommendations and suggestions are included in this chapter. First are the statewide goals, strategies, and action steps recommended by the Task Force. County-specific suggestions are also presented at the end of each community profile. These lists are based on the input of community residents. Please note that many of the county-specific suggestions are intended to address unique circumstances and immediate needs.

A. PRINCIPLES OF RURAL HEALTH STRATEGIC PLAN

Throughout the design of the strategic plan, Task Force members and consultants thought it was important to define a set of principles and the social contract that would guide the plan's formation. These principles, with brief explanations are:

- **Make quality, affordable, comprehensive health care available to all Nevadans** – The most important part of this principle is "all Nevadans". This includes rural and urban residents, rich and poor, those with and without health care coverage, and citizens, documented individuals, and undocumented persons. The Task Force is cognizant of the philosophical

and financial implications of this principle. Nevertheless, it maintains that progress toward this is imperative, given the long term benefits to society.

- **Utilize currently available infrastructure** – Although the infrastructure of the rural health care system needs improvement, it does exist in most rural communities. A key component of our strategic plan is to support and build on what currently exists. This approach will also increase the transparency of changes for community residents.
- **Facilitate local control** – Individuals that live in local communities are in the best position to decide the needs of their communities. We suggest that as this strategic plan is considered and, hopefully implemented, community representatives will be involved in the implementation process.
- Facilitate the development of a DHR system that distributes resources to rural communities to allow parity to achieve needed outcomes – Currently, State resources are distributed to Clark, Washoe, and "other" counties. Only five to ten percent of State health care dollars are distributed to rural counties. To improve the health care and health of rural Nevadans, rural communities must not be considered as an afterthought during the resource distribution process. DHR and related health agencies must consider the unique needs and resources of each county, and fund initiatives accordingly. Because of the vast needs of each county, funding strategic plan initiatives must be a priority.
- Enhance flexibility of health care providers through maximum use of physician extenders, nurses, public health and EMS personnel, dental hygienists, and pharmacists – As described in this report, the rural counties have a severe health care workforce shortage. As one way to reduce this shortage, we suggest that the scopes of practice of rural providers be reviewed and expanded.
- **Focus on prevention activities that reduce the need for ongoing and costly treatment** – Another key element to the success of rural health care initiatives is the improvement of rural Nevadans' health and lifestyle. Improved health, facilitated by good nutrition and exercise, will minimize the need for health care services and reduce the cost of health care expenditures.
- **Implement "no wrong door" and share administrative resources** – To maximize available resources, we suggest that State and local agencies co-locate to share administrative resources and minimize the time and travel distances their clients must expend to obtain needed services.
- **Maximize the use of case managers and care coordinators** – Obtaining needed health care is not an easy task in today's world of specialization. To ensure that limited services are not unnecessarily duplicated and that rural patients obtain needed care as efficiently as possible, rural health care entities should utilize case managers and care coordinators whenever possible.
- **Adopt a public policy that encourages a consistently supportive approach to rural health care** – Data obtained from the State Demographer illustrate that most rural counties are growing and increasingly being

populated by elderly Nevadans. State resources and policy makers must support the development and maintenance of health care in rural communities before their needs are even more critical than they are today.

- **Support collection of accurate and timely data to enhance effective decision making** – Throughout the completion of this project, Task Force members and the consulting team had difficulty, or were often unable to obtain needed data. A centralized data collection system is needed to ensure that health care data used to make policy and funding decisions is complete, accurate, current, and readily available.
- **Work with the Legislature to expand revenue base to fund health care and social programs** – We understand that a Task Force is currently addressing tax and revenue issues for the Legislature. It is clear that a revenue expansion is necessary to address the needs of Nevada residents and we support these efforts.
- **Recruit, hire, and train local residents whenever possible** – Health care professionals that were raised in a rural area are more likely to remain there than individuals that were raised elsewhere. All recruitment, hiring, and training initiatives are based on this premise and should be pursued by policy makers.
- **Enhance efficiency and reduce administrative barriers within the system** – Rural health care practitioners must deal with limited resources on a daily basis. State legislators and policy makers must do everything possible to reduce or eliminate barriers to the delivery of health care services to rural residents.
- **Strive for long term financial viability and self-sustainability** – Whatever action items are chosen for implementation, the long term financial health of the community hospitals and clinics should be the highest priority. They are usually one of the top two or three employers in each community. The revenues generated by health care can be the largest, most dependable source of income to rural communities and their residents.
- **Focus on initiatives that are likely to result in the greatest health benefits for the largest proportion of rural citizens** – Like the sixth principle described above, prevention of future health care problems is critical in an age of limited resources. Additionally, the vast number of health care issues and their possible solutions require that the greatest good for the greatest number be ensured.
- **Maximize federal funding** – In an age of limited resources, it is important that health care solutions strive to take maximum advantage of federal reimbursement opportunities.

B. STATEWIDE RURAL HEALTH STRATEGIC PLAN

This section presents statewide rural health care goals, strategies, and action steps. The information is presented in four general categories: planning and coordination, service delivery, sustainable financing, and infrastructure

development. Several of the action steps contained herein have already been suggested by the ORH/AHEC. The Task Force thanks ORH/AHEC for sharing its recommendations.

1. Planning and Coordination Goal

Goal #1: Create an ongoing mechanism for planning and coordination of rural health care	
Strategies	**Action Items**
Establish and maintain a quasi-governmental board for rural health planning and coordination	• Structure board to take advantage of existing rural health care expertise • Establish board as a partnership of public and private interests • Create board goals to encompass broad planning, system coordination and resources, and support for public policy decision making
Facilitate information integration on a statewide basis	• Institute a centralized data collection and outcome measurement system for Nevada's health care systems that serve rural and underserved areas • Support the development of technology capabilities for shared accounting, purchasing, and billing • Support communication/supervision of health care personnel utilizing technology • Implement centralized patient records by community or region as appropriate • Allow inter-state licensing of providers • Foster Medicaid's ability to accept electronic transactions for eligibility, authorization, and payment

2. Service Delivery Goals

Goal #2: Enhance rural physical health primary care model	
Strategies	**Action Items**
Maintain sufficient primary care workforce base	• Add needed primary care workforce • Continue to support and fund UNSOM's commitment to rural health care • Resolve pending J1 Visa problems and increase available slots for rural communities • Encourage rural counties to implement property tax credits for needed professionals • Support continued effort through AHEC to develop the rural health care workforce • Increase emphasis on training of local residents • Initiate high school recruitment efforts for prospective health care professionals • Expand the Nevada Health Service Corp to include dentists, dental hygienists, nurses, and EMS personnel • Expand support to the WICHE and HCAP programs for scholarship assistance • Utilize Millennium Scholarships for training of health professionals • Improve utilization and expand scopes of practice of mid-level providers • Reduce administrative barriers and facilitate coordination among State licensing boards
Implement existing plan to address nursing shortage	• Expand nursing programs at universities and community colleges • Coordinate with and support efforts of Nevada nursing task force • Allow flexible scopes of practice for all patient caregivers • Work to eliminate boundary issues among community colleges so that State residents can participate in any available program at any institution and through distance learning programs
Improve dental care services and access	• Implement dental license regulatory relief to increase supply • Expand scope of practice for and support local training of dental hygienists • Encourage dentists to see Medicaid patients through the provision of incentives such as student loan forgiveness • Create financial incentives and alternative delivery systems to serve rural populations

	• Support the role of AHEC in developing rural experiences for students • Fund rotations into rural communities for dental students (including hygienists)
Increase overall efficiency and effectiveness of primary care	• Eliminate duplication and barriers between public, private, and tribal health services • Implement integrated facility models where viable • Expand schedule of State Mammovan
Improve obstetrics services in rural communities	• Make incentives for rural obstetrics providers a priority • Coordinate efforts with ORH/UNSOM on rural obstetrics initiative and support additional funding • Foster telemedicine and other linkages with urban obstetricians/gynecologists to improve prenatal care • Provide education and support to enable community health nurses to provide prenatal care
Goal #3: Create long term viability in behavioral health, substance abuse, and support services	
Strategies	**Action Items**
Obtain needed staff	• Explore mobile/alternative service delivery models • Support expansion of providers' scope of practices • Develop/expand incentives to locate in rural areas • Recruit and train local residents for health care careers
Develop or enhance appropriate facilities/ treatment sites	• Co-locate and integrate with primary care facilities where possible • Address behavioral health transport issues with appropriate agencies • Continue to implement DMHDS priorities • Expand inpatient, behavioral health, and residential substance abuse treatment capacity • Provide funding for a rural Program of Assertive Community Treatment (PACT) for the severely mentally ill • Expand capabilities of correctional facilities to provide behavioral health and substance abuse services
Coordinate and integrate service delivery across the continuum of care	• Improve case management and care coordination activities and funding • Explore "no wrong door" capabilities • Develop Elko regional behavioral health center • Explore need for dedicated nursing facilities for combative patients and individuals with Alzheimer's and dementia
Secure additional funding to provide needed services	• Maximize Medicare/Medicaid funding • Work with SHD to enhance funding for direct services • Improve rural allocation of State funds to reduce waiting lists and establish services in underserved communities

Goal #4: Improve service access and response capabilities	
Strategies	**Action Items**
Make EMS systems more available, timely, and effective	• Fund additional EMT positions, needed equipment, and ongoing education and training at State and county levels • Expand scope of practices and facilitate recruitment and retention of volunteers through continuing education, up-to-date equipment, and recognition • Fund EMS training facility in Elko • Continue to develop standardized EMS training curriculum • Integrate disparate EMS telecommunications systems • Obtain regulatory relief for transports • Resolve gaps in air transit coverage/response issues
Improve ability to treat time sensitive conditions (heart attacks, strokes, births, and trauma)	• Identify key participants and initiate planning efforts • Work with tertiary centers to develop integrated treatment protocols and training programs • Identify any capital equipment needs and sources of funding • Identify and eliminate any regulatory barriers • Foster the use of telemedicine network • Expand existing telemedicine network capacity for multiple users
Ensure service access and continuity of care for chronic/specialty care patients (e.g., dialysis, chemotherapy, etc.)	• Expand scope of practice of community health nurses • Execute agreements to ensure availability of appropriate capabilities and providers • Explore expansion of mobile service capabilities • Develop clinical linkages (e.g., care protocols) with tertiary providers
Goal #5: Invest in public and preventive health for long term benefits	
Strategies	**Action Items**
Maintain/expand preventive health services (immunizations; smoking cessation; teen pregnancy; suicide prevention; and oral health, nutrition, and fitness education)	• Work with DHR, community health nursing clinics, and counties to develop appropriate local and regional health departments • Work with communities to develop priorities • Expand scope of practice of community health nurses • Develop extensive outreach programs
Enhance environmental health programs (e.g., mining, water supply, etc.)	• Assess local community health needs and initiatives • Develop additional initiatives based on needs assessment findings
Develop rural bio-terrorism and related emergency responses	• Continue to develop the rural component of State bio-terrorism initiatives as appropriate for each response or provider group • Train health care professionals as necessary • Educate public regarding State activities

	• Implement statewide communication and epidemiological surveillance system

3. Sustainable Finance Goals

Goal #6: Improve insurance coverage for uninsured and underinsured Nevadans	
Strategies	**Action Items**
Increase the number of Nevadans with health insurance	• Provide low-cost insurance product for uninsured/underinsured in Nevada • Expand Nevada Check-Up coverage to parents of eligible children • Create cost-effective insurance options for Nevada employers
Standardize insurance coverage and costs for rural consumers	• Establish high risk patient pool to "spread the risk" across insurers • Promote the creation of patient navigators and case management services in rural Nevada • Research the potential for establishing statewide public/private risk pooling and group buying/minimum insurance purchasing
Address the cost and coverage issues around medical malpractice insurance	• Investigate malpractice subsidies for Medicaid providers • Maintain the sovereign immunity cap for public facilities
Implement regulatory reforms	• Establish streamlined Medicaid/Nevada Check-Up eligibility criteria, and on-line application and billing • Research public/private cooperatives and small group pools in rural markets to eliminate regulatory barriers
Goal #7: Develop adequate capital funding	
Strategies	**Action Items**
Establish public/private investment/trust fund	• Work with Nevada Department of Transportation to obtain funding for enhanced communications systems and vehicle replacement/maintenance • Design and fund revolving loan pool (similar to NRHP's fund) to meet funding for equipment and facility replacement • Determine initial financing requirements • Develop the governance structure and establish oversight method • Legislate funding based on dedicated statewide capital development tax • Support efforts for statewide taxation reform • Augment funding to finance EMS vehicles, facilities, and equipment purchases
Develop foundation and	• Research additional private foundation development funds

philanthropic support	• Establish rural health foundation • Research the possibility of diagnosis-specific foundations focusing on rural care i.e., asthma, diabetes, and severe mental health needs
Develop public and private partnerships	• Conduct a study of public assets' use as collateral for capital investment purposes • Allow use of State credit rating by rural facilities • Allocate a portion of tobacco settlement dollars for rural facilities • Support the use of the Rural Health Works economic impact information for decision-making
Goal #8: Develop adequate operational funding	
Strategies	**Action Items**
Improve grant procurement capabilities	• Establish State-level office to identify and respond to grant opportunities for rural Nevada • Support ongoing training of county staff and community volunteers on effective grant writing techniques
Make needed State tax code revisions	• Explore adoption of broader taxing authority at county and city levels • Support tax reform recommendations that fairly distribute new State taxes to counties for rural health care • Raise the $3.64 tax cap • Maintain sales tax exemptions for public and private non-profit health care facilities
Standardize and enhance State support across rural Nevada	• Standardize minimum levels of State support for all health care services • Consider Medicaid reimbursement enhancements for rural providers • Consider rural differential payment options for physician extenders • Develop recommendations for distribution of Yucca Mountain funding for rural health care
Enhance county support across rural Nevada	• Establish an acceptable level of support for clinic and hospital-based care, including charity care • Explore a county assumption of State health department functions with guaranteed financial support • Explore county user fees to subsidize clinic-based health care services • Develop workable funding mechanism for long term care services
Develop private sector capacity and initiatives in rural Nevada	• Research private-sector insurance subsidies for rural health care • Develop centralized third-party administrative services • Design private-sector contractor consortia for itinerant and

	mobile services • Work with Nevada Public Utilities Commission to support funding of rural health telecommunications/technology initiatives

4. Infrastructure Development Goals

Goal #9: Ensure long term viability of rural health care facilities	
Strategies	**Action Items**
Stabilize revenues and investments of facilities	• Consider Medicaid reimbursement enhancements for rural providers • Identify and maximize payer sources and ongoing revenues (e.g., Medicaid, Medicare, other sources) • Explore alternative uses of underutilized capacity and other business opportunities • Identify and assess cost reduction opportunities • Eliminate State shifting of costs to facilities and providers (e.g., unfunded mandates, cancer registry, and underfunded programs) • When appropriate, provide exemptions to statutory and regulatory requirements in order to foster economic stability and flexible use of resources
Ensure availability of appropriate diagnostic and treatment services	• Identify lacking specialist and diagnostic services and prioritize development • Ensure adequate capacity of services at local clinics • Develop reimbursement sharing models with service providers • Revise licensure provisions that inhibit out-of-state consultation • Support technology development in rural health care facilities • Allow Medicaid reimbursement for telemedicine activities • Allow facilities in taxing districts to transfer equipment between taxing districts • Initiate support for specialized services for children
Improve quality, service delivery, and customer satisfaction	• Document current quality performance • Measure customer perceptions • Establish targets/develop improvement initiatives • Conduct ongoing monitoring
Keep current with plant, property, and equipment	• Identify detailed capital needs, both immediate and long term • Expand revolving capital fund • Establish bonding authority for rural health care facilities

Goal #10: Expand capacity to provide health care services within rural communities	
Strategies	**Action Items**
Assure reasonable access to diagnostic services	• Develop local diagnostic service inventories and prioritize acquisitions where needed • Develop statewide itinerant (mobile) system to deliver services when not locally available • Enhance incentives to attract specialists to rural communities
Continue development of inpatient and outpatient services	• Continue support for critical access hospital status and support expansion to other facilities • Continue development of "swing beds" and other provider flexibility options, such as scope of practice expansions for nurses, caregivers, EMTs, dental hygienists, and pharmacists • Develop and enhance clinic-based services as appropriate • Support development of Elko regional behavioral health center • Expand substance abuse services
Develop facilities and services for the aged	• Develop and maintain specific projections of need • Plan and fund facilities for assisted living and long term care • Expand programs that support independent living • Maximize federal Medicaid match • Continue cost-based reimbursement for rural hospital-based long term care facilities • Adopt public policy that distributes responsibility for payment for LTC, assisted living, and indigent care fairly between the State and the counties
Strengthen public health presence in rural communities	• Work with DHR, community health nursing clinics, and counties to develop appropriate local and regional health departments • Expand scope of practice of community health nurses
Address tertiary care access issues	• Develop and implement statewide tertiary care development plan • Develop out-of-state reciprocal agreements • Address urban/rural patient transfer barriers • Facilitate tribal/non-tribal sharing of health care resources
Develop and centralize administrative capabilities when effective	• Continue to develop centralized services, such as purchasing, billing, and shared technology • Develop centralized pharmacy purchasing program • Develop other centralized capabilities where feasible
Enhance and coordinate medical transportation systems	• Continue ongoing support for EMS transport system • Research and implement reforms for non-emergent transport options, i.e. VA, senior citizen, specialist/tertiary

	transport options, i.e. VA, senior citizen, specialist/tertiary care • Develop and implement mental health and substance abuse/detox transportation alternatives to law enforcement personnel and vehicles • Support funding to maintain and replace EMS vehicles • Work with IHS and tribal representatives to allow all rural residents to access health care at any facility and from any provider • Resolve liability issues for non-tribal ambulances to travel on tribal lands and care for Native American residents
Goal #11: Support maximum use of technology in rural communities	
Strategies	**Action Items**
Support improvement and utilization of communications systems	• Review, establish and implement statewide communications hardware and protocol standards to integrate all EMS and hospital communications systems
Expand telemedicine capabilities	• Support continued development of statewide telemedicine system • Continue to develop and implement statewide telemedicine compensation, billing, and supervision guidelines for public and private-sector payers
Enhance public broadband infrastructure	• Expand capabilities of T-1 system and other hardware enhancements • Standardize the financing of rural Nevada broadband and consider public subsidy to facilitate development in smaller communities • Subsidize line charges for rural providers and facilities • Support the use of the public system for multiple users

C. COUNTY SPECIFIC PROFILES AND ISSUES

1. Carson City County (Carson City)

a. Demographics

Carson City's population has increased over the ten-year period from 1990 to 2000 by 30 percent. Its population density of 366.8 persons per square mile is well above the rural/frontier average of 2.96.[99, 100] About one in seven persons is 65 years or older.[101] Its per capita income is well above the rural/frontier weighted average of $27,045. Like all rural/frontier counties, Carson City has a predominantly white population. Fourteen percent of Carson City's population is Hispanic/Latino. The top three industries in Carson City are services, retail trade, and manufacturing, employing almost 80 percent of employees working in Carson City. The following table summarizes some demographic, income, and industry information for Carson City.

[99] For comparison, Carson City's population density is similar to that of Madison, Wisconsin (360 persons per square mile), Baton Rouge, Louisiana (367 persons per square mile), and Portland, Oregon (372 persons per square mile).

[100] The rural/frontier population density, excluding Carson City County, is 2.4 persons per square mile.

[101] This compares with one in ten in Clark and Washoe Counties.

Carson City

Population	
Total population (1990)	40,443
Total population (2000)	52,457
Percent change in population from 1990 to 2000	30%
Land area (square miles)	143
Population per square mile (2000)	366.8
Population distribution as percent of total population (2000)	
Population 65 years and over	15%
Hispanic or Latino	14%
White	85%
Black or African American	2%
American Indian and Alaska Native	2%
Asian or Pacific Islander	2%
Other race(s)	9%
Median age (2000)	38.7
Income	
Per capita personal income (2000)	$31,566
Industry	
Top three industries by percent of employees in each	
Services	33%
Retail Trade	26%
Manufacturing	20%

b. Community Meeting Results

The community stakeholders met with members of the LECG consulting team and representatives from the Bureau of Community Health on April 11, 2002. A total of six individuals represented Carson City. The public forum was held on May 30, 2002. This evening meeting was attended by approximately 40 individuals.

(1) Issues

Uninsured Population – Concern was expressed by several evening meeting attendees that affordable health insurance was not available to low income and undocumented residents. Many of these residents would most likely be eligible for Medicaid, except for the citizenship requirements. Current federal requirements only allow undocumented residents to receive emergency services through Medicaid. States may cover these individuals for other services, but federal reimbursement is not available.

Uninsured adults with income slightly above Medicaid income eligibility limits also can not find affordable coverage. As a result, there was discussion that the State's Nevada Check-Up program should be expanded to include adults.

The Nevada Check-Up program requires that an individual not have health insurance for six months prior to enrollment. As a result, attendees stated that children who have lost health insurance coverage must wait six months for coverage; this often causes care interruption issues.

Some states have Medicaid "spend down" programs that allow an individual with high medical bills to qualify for coverage. These programs typically allow an individual with income in excess of Medicaid eligibility to spend down his/her income with the cost of medical bills and then be eligible for Medicaid. During the meeting it was stated that Nevada does not have a spend down program.

Accessibility of Services – Attendees indicated a gap in the availability of certain medical and dental services in the Carson City area for both the insured and uninsured populations.

Through NVHC, the Sierra Family Health Center (SFHC) provides primary care services to all, regardless of an individual's ability to pay. A sliding fee payment schedule is available. The Center is open Monday through Saturday, 8am to 5pm. It is staffed by an internal medicine physician, a pediatrician, two physician assistants, and necessary supporting professionals. SFHC has laboratory services, but no x-ray or pharmacy. NVHC staff provide medical care at the jail and juvenile facility one or two hours per day.

Prenatal care is available, but there is not an obstetrician on staff. Most pregnant low-income women receive OB care from the Mom's Clinic at Carson-Tahoe Hospital or the Reno Pregnancy Center at Washoe Medical Center. There is one OB/GYN physician group in Carson City that will see some indigent patients.

Friends in Service Helping (FISH) provides services to the homeless in the Carson City area. It has a medical clinic that is open half days, two to four days per week. It employs a half-time nurse practitioner, and is also staffed by two or three volunteer part-time physicians. FISH also provides food, social services, and clothing to its clients, and operates a thrift store.

Carson-Tahoe Hospital offers all inpatient services, except trauma care. It has an inpatient behavioral health center. An individual must have insurance to utilize behavioral health services, unless the patient has a life-threatening condition. There are three urgent care centers in Carson City.

Most specialty care is readily available in Carson City. Stakeholders reported that eye care is difficult to access and the local orthopedic practice has a two to three month wait for an appointment.

All individuals in Carson City experience some access issues for dental services. There are 27 dentists in the Carson City area, but most have waiting periods for appointments. Some will see Medicaid patients, but only on a limited basis. A stakeholder thought that there was the equivalent of one FTE dentist for Medicaid recipients.

Concern was also expressed that the Medicaid provider network is shrinking, making it more difficult to access needed health care services. Reasons for this perceived decrease in Medicaid contracted providers were not discussed.

Several attendees indicated that the State does not provide adequate funding to clinics that provide services to low income uninsured individuals and families. It was also said that the State does not provide any funding to CHCs for behavioral health services. As a result, there is a severe deficiency in the spectrum of health care services that are available to low income individuals and families.

According to the stakeholders, Carson City area residents spend approximately $26 million annually for medical services provided in Reno's

hospitals. At the north end of Carson City, a 160 bed hospital is being built by Carson-Tahoe Hospital to improve utilization and recapture these funds for the local community.

Stakeholders reported that the current hospital facility will be reconfigured as a primary care/behavioral health center. It is expected to provide more access to care than is currently available. Additionally, behavioral health services will be available at the center to facilitate service integration. Overall, the goal of the center will be to offer patients a one-stop gateway to care.

One attendee noted that she found it difficult to learn where providers were located. Specifically, it was stated that there are few resource guides available that explain where and how to access services in the Carson City area.

Behavioral Health Care Services - There is a shortage of behavioral health providers and services in the Carson City area, particularly for individuals in crisis. The DMHDS clinic is staffed by a clinic director, three psychologists, four social workers, two nurses, and five service coordinators. A psychiatrist is available eight or nine days per month. There are also a number of private practice psychiatrists, psychologists, and social workers practicing in Carson City.

In a pilot project scheduled to begin by October 2002, the SFHC will provide a physician to the DMHDS clinic on a half-time basis, and the DMHDS clinic will provide a half-time psychologist to SFHC. Sierra Family also has another psychologist that runs a substance abuse group at the Clinic two times a month.

A recent request for funding for rapid response teams to provide crisis services was not approved by the Legislature. For the period beginning July 1, 2003, a request has been made to fund two positions, a licensed psychiatric nurse and a licensed social worker, to perform case management and psycho-social assessments at SFHC. This is the concept that is currently being piloted at the Center.

Service Delivery – Several attendees that utilized SFHC indicated that although they are satisfied with the clinic physicians, the staff needed training in dealing with sensitive and culturally appropriate issues. They also said that improved customer service is needed. For example, SFHC discontinued a prescription assistance program with no advance notice to patients. Additionally, it was stated that appointments were often cancelled when a patient arrived at the clinic only a few minutes late. Since reliable transportation is often a problem for the low-income population, this situation is not uncommon.

Lack of interpreter services or bilingual providers was identified as a barrier to accessing services, including behavioral health services. Some services are available from Nevada Hispanic Services, Inc., but resources are limited. Attendees said that the inability to communicate with providers prevented them from conveying information related to medical issues.

Outreach and Prevention – It was mentioned that more effort needs to be made to provide educational material to the Carson City community about preventive health care services.

(2) Recommendations from Community Input Process

- Support the creation and funding of a low-cost insurance product for low-income residents.
- Work with the local clinic to improve interpreter services and cultural sensitivity.
- Work to fund and recruit behavioral health and substance abuse providers to Carson City and integrate their activities with primary care providers in the local health clinic.
- Complete conversion of Carson-Tahoe Hospital facility into a primary care center.
- Expand the Nevada Check-Up program to cover parents of eligible children.
- Work with community representatives to develop a community resource guide in both English and Spanish.
- Expand outreach activities, including making available printed materials, regarding health promotion and lifestyle improvements.

2. Churchill County (Fallon)

a. Demographics

Churchill County's population has increased over the ten year period from 1990 to 2000 by 34 percent. Its population density of 4.9 persons per square mile is above the rural/frontier average of 2.96.[102] One in eight persons in Churchill is 65 years or older. Its per capita income is below the rural/frontier weighted average of $27,045. Like all rural/frontier counties, Churchill County has a predominantly white population. Nine percent of its population is Hispanic/Latino. The top three industries in Churchill County are services, retail trade, and manufacturing, employing almost 80 percent of employees working in Churchill County. The following table summarizes some demographic, income, and industry information for Churchill County.

[102] The rural/frontier population density, excluding Carson City County, is 2.4 persons per square mile.

Churchill

Population	
Total population (1990)	17,938
Total population (2000)	23,982
Percent change in population from 1990 to 2000	34%
Land area (square miles)	4,929
Population per square mile (2000)	4.9
Population distribution as percent of total population (2000)	
Population 65 years and over	12%
Hispanic or Latino	9%
White	84%
Black or African American	2%
American Indian and Alaska Native	5%
Asian or Pacific Islander	3%
Other race(s)	6%
Median age (2000)	34.7
Income	
Per capita personal income (2000)	$23,615
Industry	
Top three industries by percent of employees in each	
Services	43%
Retail Trade	24%
Manufacturing	10%

b. Community Meeting Results

A meeting with eight community stakeholders was held in Fallon on the afternoon of April 22, 2002. Also attending the meeting were members of the LECG consulting team and two representatives of the Bureau of Community Health.

(1) Issues

Service Availability – Churchill County is one of the few counties with a privately owned and managed hospital, Churchill Community Hospital.[103] Currently owned by Banner Health System, the hospital has a 40 bed capacity; occupancy usually is 50 percent. The hospital administrator estimates that approximately 2/3 of the babies born to Churchill County residents are born in Fallon; the remainder are born in Reno, Sparks, or Carson City. There are a number of on-site specialists or itinerant specialty care services provided under

[103] Hospital is not-for-profit.

contract through the hospital. The hospital is profitable, but its parent company recently made a corporate decision to divest itself of smaller facilities. Churchill Community is currently for sale. The County owns the land and has the right of first refusal for any ownership change. Several companies have indicated an interest in the hospital.

Like many other rural counties, Churchill County is geographically large. Services are concentrated in the major population center, Fallon. Itinerant and other mobile services are nearly non-existent, although one physician travels to Fernley once a week. The only medical care available on the weekends is at the ER.

Physician services in Fallon are provided by eight hospital employees and eight private physicians. Physician specialties include surgery, orthopedics, pediatrics, OB/GYN, emergency medicine, and radiology. A cardiologist is available four days a week. Community residents have to travel to other communities for some diagnostic care for children, most orthopedic care, invasive cardiology, neurology, and dermatology. Dental services are generally available and also provided by the Shoshone tribe (to tribal members and other community residents).

Fallon has not been designated an underserved area. However, the cost of bringing new professionals into the community, retention of current practitioners, and the presence of the leukemia cluster have made future recruitment a significant issue. The community plans to apply for an underserved designation.

The stakeholders felt that there were a sufficient number of nurses available in the community. Many of them are spouses of Navy pilots based at the Fallon Naval Air Station. A lack of radiology technicians was reported.

Behavioral Health and Substance Abuse Service Availability – Fallon's DMHDS clinic is staffed by a director, one psychologist, three social workers, one nurse, and a service coordinator. A psychiatrist visits the clinic

three days a month. Each social worker carries a caseload of approximately 65 persons; they also provide emergency services and do client intake. There is a waiting list. There are also one or two private behavioral health providers. Services are not available outside Fallon, or for home-bound people. It was suggested that the hospital needs a psychiatric unit.

Substance abuse services are provided by New Frontier's (private, non-profit) drug and alcohol treatment facility in Fallon. Medical detox is not available in the County. Substance abuse services need to be expanded.

Senior Services – The community's largest long term care facility (40 beds) closed several months ago. One prospective hospital buyer has indicated its interest in building a facility adjacent to the hospital. There are two or three assisted living facilities in the County.

Long term care is an issue in Churchill County. Because there is not currently a long term care facility, individuals often have to remain in the hospital longer than necessary. This affects the hospital's profitability. Additionally, the stakeholders said that the County's indigent care budget for long term care services is fully depleted each year. As the population ages, this will become a bigger issue. The meeting attendees agreed that a long term care facility is a high priority for the County.

There are good programs for seniors in Fallon, but services in more rural areas are limited. Approximately 3,500 meals are provided each month. The Churchill Area Regional Transportation system provides fixed route and individual pick-up transportation.

Private Insurance – It was reported that health insurance costs for county employees have risen approximately 150 percent over the last two or three years. This has resulted in a decrease in dependent coverage. School, telephone (publicly owned), and EMS employees are moving to the State's public employee insurance program to help reduce costs.

Increasingly, obtaining any coverage is difficult due to the leukemia cluster. Several private insurers have withdrawn from the Churchill County market.

Preventive Care – Meeting attendees reported that an increasing number of physicians will not give immunizations because of the required paperwork. It was suggested that additional public health staffing is needed to ensure that all children receive needed immunizations. Additionally, more cancer screening opportunities are also needed.

(2) Recommendations from Community Input Process

- Build a long term-care facility and repatriate local residents who have had to go elsewhere for care.
- Work to identify and create the incentives necessary to attract health care professionals to the County.
- Recruit additional mental health staff to the community, including a full time psychiatrist.
- Expand mental health services available to children and seniors.
- Support the creation of a low-cost insurance product.
- Develop weekend access to care through an urgent care facility to reduce the load upon the ER. Analogously, through regulatory reform, allow the ER to provide urgent care services at the level appropriate to the needs of the patient.
- Expand public health capabilities/staff in the County.
- Work with Bureau of Community Health staff to expand chronic and preventive care capabilities of community health nursing personnel.
- Expand outreach activities, including making available printed materials regarding health promotion and lifestyle improvements.

3. Douglas County (Minden)

a. Demographics

Douglas County's population has increased over the 10-year period from 1990 to 2000 by 49 percent. Its population density of 58.1 persons per square mile is well above the rural/frontier average of 2.96.[104] Approximately one in seven persons is 65 years or over.[105] Its per capita income is well above the rural/frontier weighted average of $27,045. Like all rural/frontier counties, Douglas County has a predominantly white population. Seven percent of its population is Hispanic/Latino. The top three industries in Douglas County are services, retail trade, and manufacturing, employing almost 85 percent of employees working in Douglas County. The following table summarizes some demographic, income, and industry information for Douglas County.

[104] The rural/frontier population density, excluding Carson City County, is 2.4 persons per square mile.

[105] This compares to one in ten in Clark and Washoe Counties.

Douglas

Population	
Total population (1990)	27,637
Total population (2000)	41,259
Percent change in population from 1990 to 2000	49%
Land area (square miles)	710
Population per square mile (2000)	58.1
Population distribution as percent of total population (2000)	
Population 65 years and over	15%
Hispanic or Latino	7%
White	92%
Black or African American	0%
American Indian and Alaska Native	2%
Asian or Pacific Islander	1%
Other race(s)	5%
Median age (2000)	41.7
Income	
Per capita personal income (2000)	$37,113
Industry	
Top three industries by percent of employees in each	
Services	63%
Retail Trade	12%
Manufacturing	9%

b. Community Meeting Results

A meeting with 11 community stakeholders was held in Minden on the afternoon of April 29, 2002. Also attending the meeting were members of the LECG consulting team and four representatives from the Bureau of Community Health. Three community residents attended the evening public forum.

(1) Issues

Provider Availability – Minden is located approximately 15 miles south of Carson City and 15 miles east of Lake Tahoe. Hospital inpatient services are provided at Carson-Tahoe Hospital located 15 miles north in Carson City or Barton Memorial Hospital in South Lake Tahoe. Minden Medical Center, owned by Carson-Tahoe Hospital, offers urgent care services seven days per week from 8am to 8pm. It provides laboratory services, x-rays, physical therapy and pharmacy services, and also has a VA clinic.

The Carson Valley Medical Center located to the east in Gardnerville provides a comprehensive set of services, except inpatient care. Services provided at the Center include lab, medical imaging, occupational health, respiratory care, and nutrition services. For trauma cases, the Center has a heliport to provide immediate air transport to trauma centers in Reno.

In 2001, a health survey was conducted in Douglas County. The health care issues identified by County residents included provider accessibility, the incidences of skin cancer and substance abuse, and prescription drug costs.

Telemedicine has been explored in the County, but has not been successful because of credentialing and billing issues and specialist availability. Because of Douglas County's proximity to Carson City and Reno, attendees did not indicate a significant need for telemedicine services, except for distance learning.

There are several dentists practicing in Minden and Gardnerville, but none will see Medicaid recipients. The reason for not accepting Medicaid is not due to reimbursement, but rather the costs associated with the high percentage of "no-shows".

Attendees also stated that out of pocket costs can be high, as dentists are not required to accept insurance payments as payment in full. Specifically, patients are often responsible for paying the difference between their dentist's usual and customary charges and the amount reimbursed by their insurance carrier. Affordable access to dental services for children was also identified as an issue, because many insured individuals cannot afford to purchase dependent dental coverage.

Stakeholders identified a significant shortage of behavioral health services. The DMHDS facility in Gardnerville employs a director, two psychologists, two social workers, a nurse, and three service coordinators. A psychiatrist is available four or five days per month. The average wait time for a first appointment is six weeks; wait times for follow up appointments average

three to four weeks. Substance abuse services are very limited, although some community programs have been developed for adolescents and their parents.

Preventive Care – Recently, the Partnership of Community Resources looked at youth service gaps and brought in $1 million in prevention programs for teen pregnancy, drug and alcohol abuse, and suicide. The Partnership is now focusing on services for seniors; identified issues include behavioral health care, alcohol abuse, and prescription interactions.

Attendees discussed the need for early intervention and prevention services and estimated that 70 percent of medical costs are due to preventable conditions. More emphasis should be placed in making prevention programs available to all County residents. The County participates with Lyon County in providing youth detention and rehab treatment services. The Family Support Council provides parenting and anger management classes and grief programs.

Uninsured Population – Stakeholders said that part time employees and undocumented aliens do not have access to affordable health insurance. For those individuals that do have coverage, a significant number cannot afford coverage for their dependents. The Barton clinic in South Lake Tahoe provides services on a sliding fee schedule. There is no such clinic in Minden, and low income undocumented residents' only source of health care is often the ER. Concern was also expressed about the soaring out of pocket costs for many elderly residents that have only Medicare coverage and, therefore, no prescription drug benefit.

Senior Services – Minden/Gardnerville has a senior center, which was open in 1985. Each day it serves approximately 120 meals and delivers 135-150 meals to homebound individuals. There are also senior centers in Stateline and South Lake Tahoe. Attendees stated that the South Lake Tahoe center needs to expand its space and available services, including the addition of a nutrition program. Seniors, who currently represent about a third of the community, are the fastest growing segment of the County.

Stakeholders identified a growing need for respite care for family caregivers of seniors and disabled children. While there are assisted living facilities in both Minden and Gardnerville, the closest long term care facility is in Carson City.

(2) Recommendations from Community Input Process

- Work to identify and create the incentives necessary to attract targeted health care services, particularly senior services, dental care, behavioral health care, and substance abuse services, to the County.
- Work with State officials to open a low-cost medical, dental, behavioral health, and substance abuse clinic in Minden.
- Support the creation of a statewide low-cost insurance product that includes prescription coverage for seniors.
- Work with Bureau of Community Health staff to expand chronic and preventive care capabilities of community health nursing personnel.
- Expand outreach activities, including making available printed materials regarding health promotion and lifestyle improvements.
- Expand the Nevada Check-Up program to cover parents of eligible children.
- Work with State officials to expand eligibility limits for the Senior Rx program.

4. Elko County (Elko)

a. Demographics

Elko County's population has increased over the ten year period from 1990 to 2000 by 35 percent. Its population density of 2.6 persons per square mile is slightly below the rural/frontier average of 2.96.[106] Elko County, with only about one in seventeen persons 65 years or over and a median age of 31.2, has the youngest population of all rural/frontier counties in Nevada. Elko County also has the highest Hispanic and Latino population, at 20 percent of total county population. Its per capita income is below the rural/frontier weighted average of $27,045. The top three industries in Elko County are services, retail trade, and mining, employing just over three quarters of employees working in Elko County. The following table summarizes some demographic, income, and industry information for Elko County.

[106] The rural/frontier population density, excluding Carson City County, is 2.4 persons per square mile.

Elko

Population	
Total population (1990)	33,530
Total population (2000)	45,291
Percent change in population from 1990 to 2000	35%
Land area (square miles)	17,179
Population per square mile (2000)	2.6
Population distribution as percent of total population (2000)	
Population 65 years and over	6%
Hispanic or Latino	20%
White	82%
Black or African American	1%
American Indian and Alaska Native	5%
Asian or Pacific Islander	1%
Other race(s)	11%
Median age (2000)	31.2
Income	
Per capita personal income (2000)	$24,909
Industry	
Top three industries by percent of employees in each	
Services	51%
Retail Trade	18%
Mining	8%

b. Community Meeting Results

The stakeholder and community meetings were held on May 13, 2002. There were 23 stakeholders and eight community participants present at the meetings. The LECG consulting team and Bureau of Community Health staff were present at both meetings.

(1) Issues

Service Availability – Health care services are readily available in Elko. Northeastern Nevada Regional Hospital has 75 beds, including ICU, obstetrics, and labor and delivery. There is a broad range of primary care and specialty practitioners. Cardiologists visit the community every two weeks. Dentists are available, and two will see Medicaid patients. There are four optometrists, two home health agencies, three or four assisted living facilities, and a 115 bed nursing facility in Elko. Service gaps that were identified include pediatric dentistry and rehabilitation services.

However, stakeholders reported that an entire floor of the hospital is not utilized because there are an insufficient number of nurses and supporting technical staff. The home health agencies also have staffing problems. Reportedly, graduating nurses are given bonuses to work in Boise.

Service availability is an issue in the outlying areas of Elko County. The Wendover Community Health Center (owned by NVHC) has two physicians and is open six days per week. Approximately 70 percent of Wendover's Nevada population is Hispanic, many undocumented. Most go to Utah for needed health care. Several part-time dentists are available on the Utah side; one will see Medicaid clients. Stakeholders reported that one dental group was willing to provide free care, but a location could not be found.

Wells also has a three days per week clinic that is staffed by a family practice physician, registered nurse, licensed practical nurse, and an administrative assistant. It can take x-rays and perform some laboratory tests. No specialty care is available in Wells. There is an assisted living facility and home care is available. There is an NVHC clinic in Jackpot, but most residents go to Twin Falls, Idaho for care. Dentists are not available in Wells or Jackpot.

Behavioral Health Services – The DMHDS clinic in Elko is staffed by a director, a psychologist, one social worker, one psychiatric nurse, and a service coordinator. Psychiatry services are available three days per month. There are no inpatient behavioral health services available at the Hospital. Patients needing inpatient services must be held in the ER until transportation is available to the State facility in Sparks. There are six or seven private practitioners in Elko. A psychologist is employed by the local IHS clinic.

A social worker is available to Wendover residents three days per week. However, stakeholders were concerned that the position's funding would end in September 2002. There are no mental health services available in Jackpot or Wells.

Substance Abuse Services – Vitality House provides inpatient and outpatient services in Elko. Services are available in Wendover 1½ days per week. Substance abuse services are also available in Salt Lake City, but there are reimbursement issues because the providers are out of state.

Public Health – The public health office in Elko is a combined State/County effort. The State employs three nurses and the County funds 1.5 nurses and clerical support. The County has a mobile van, but no funds to operate it. Most public health patients are under or uninsured. They need no or low cost preventive care, which is not available in Elko. It either has to be obtained from the public health clinic or the Hospital's ER. There is a need for a clinic in Elko that provides low or no cost care.

There is also a need for service coordination and improved communication among health care professionals. Most low income residents, who often have transportation problems, do not know where to go to obtain needed services. A bilingual resources directory would be helpful.

The meeting attendees also expressed the need for Medicaid flexibility concerning homeless and transient individuals that may be eligible for coverage. Often these individuals do not have the documentation required for an eligibility determination. Alternative documentation methods should be considered. Additionally, methods need to be designed to provide reimbursement to out of state providers, particularly for residents who live close to State borders.

Transportation Services – Transportation services is a critical issue throughout the County. Elko County encompasses an area of approximately 900 square miles. EMS services are available throughout the County.

Non-EMS ambulance service is provided by a private company. This has worked historically. However, the Wendover to Elko route has become unprofitable due to changes in Medicare reimbursement for emergency and non-emergency care.

(2) Recommendations from Community Input Process

- Identify available mobile services for providers and technology, and contract for availability as possible.
- Work to identify and create the incentives necessary to attract mental health providers, dentists, substance abuse providers, nurses, technical staff, and home health providers to the County.
- Work with legislators to pass legislation that allows an easing of experience/credential requirements for State health care positions in rural communities, so that current staffing levels can be improved.
- Support the creation of a low-cost insurance product.
- Work with State officials to open a low-cost medical, dental, and mental health clinic in Elko.
- Improve communication/coordination among community health care providers and social service staff.
- Work with community representatives to develop a community resource guide in both English and Spanish.
- Work with State officials to ease Medicaid documentation and reimbursement requirements.
- Develop transportation system to provide needed services for seniors and other low-income residents.

5. Esmeralda County

a. Demographics

Esmeralda County's population has decreased over the ten year period from 1990 to 2000 by 28 percent. Its population density of .3 persons per square mile is the lowest of the rural/frontier counties. Almost one in six persons in Esmeralda County is 65 years or older.[107] With a median age of 45.1, Esmeralda has the oldest population of all rural/frontier counties. Its per capita income is well below the rural/frontier weighted average of $27,045. Like all rural/frontier counties, Esmeralda County has a predominantly white population with the second highest percent of population by race (13 percent) being 'other races'. The top two industries in Esmeralda County are mining and retail trade, employing virtually all of the employees working in the County. The following table summarizes some demographic, income, and industry information for Esmeralda County.

[107] This compares to one in ten in Clark and Washoe Counties.

Esmeralda

Population	
Total population (1990)	1,344
Total population (2000)	971
Percent change in population from 1990 to 2000	-28%
Land area (square miles)	3,589
Population per square mile (2000)	0.3
Population distribution as percent of total population (2000)	
Population 65 years and over	17%
Hispanic or Latino	10%
White	82%
Black or African American	0.1%
American Indian and Alaska Native	5%
Asian or Pacific Islander	0.2%
Other race(s)	13%
Median age (2000)	45.1
Income	
Per capita personal income (2000)	$21,810
Industry	
Top three industries by percent of employees in each	
Mining	84%
Retail Trade	16%
Not Applicable	0%

b. Community Meeting Results

Esmeralda County stakeholders and residents attended the community meetings in Tonopah. Please see the Nye County section for issues and recommendations relevant to Esmeralda County.

6. Eureka County (Eureka)

a. Demographics

Eureka County's population has increased only slightly (7 percent) over the ten year period from 1990 to 2000. Its population density of .4 persons per square mile is among the lowest of the rural/frontier counties. Its per capita income is slightly below the rural/frontier weighted average of $27,045. Like all rural/frontier counties, Eureka has a predominantly white population. Ten percent of its population is Hispanic/Latino. The top three industries in Eureka County are mining, retail trade, and agriculture, employing almost all employees working in the County. The following below summarizes some demographic, income, and industry information for Eureka County.

Eureka

Population	
Total population (1990)	1,547
Total population (2000)	1,651
Percent change in population from 1990 to 2000	7%
Land area (square miles)	4,176
Population per square mile (2000)	0.4
Population distribution as percent of total population (2000)	
Population 65 years and over	12%
Hispanic or Latino	10%
White	89%
Black or African American	0.4%
American Indian and Alaska Native	2%
Asian or Pacific Islander	1%
Other race(s)	8%
Median age (2000)	38.3
Income	
Per capita personal income (2000)	$24,604
Industry	
Top three industries by percent of employees in each	
Mining	96%
Retail Trade	2%
Agriculture	1%

b. Community Meeting Results

A meeting with nine community stakeholders was held in Eureka on the afternoon of May 15, 2002. Also attending the meeting were members of the LECG consulting team and two representatives from the Bureau of Community Health. The evening public forum was attended by five community residents.

(1) Issues

Provider Availability – As of the date of our meetings in Eureka, there was only one physician in Eureka County. He was a J1 Visa doctor, with a specialty in internal medicine. He worked at the Eureka Clinic, which is owned by NVHC. The clinic also employs a physician's assistant (PA). The physician traveled to the NVHC clinic in Austin one day a week. The County provided the clinic facilities, paid part of the physician's salary, and furnished housing for the physician and the PA. His contract was over this summer and he was leaving

Nevada. At the time of our visit, a physician had not been found to take his place.

There is also a NVHC clinic in Crescent Valley that is open two days a week and staffed by a PA. A physician from Carlin works one day a week at the Crescent Valley clinic. Other health care professionals in the County include nurses at the Eureka clinic, a home health nurse, the community health nurse, and volunteer EMS personnel. Both Eureka and Crescent Valley have three emergency vehicles. They currently cannot provide advanced life support services, but this capability will be available soon.

The Eureka clinic has a x-ray machine, a pharmacy, and the equipment to perform basic laboratory work. It can do EKGs, stress tests, and pulmonary function tests, and has an ER that is available 24 hours a day, seven days per week. Patients that need hospitalization usually go to Elko or Battle Mountain. Babies are delivered in either Elko or Ely. Most people obtain ongoing prescriptions from mail order companies. It would be helpful if the clinic could be licensed to administer IVs and keep patients on a short-term basis.

At the time of our visit, there were two certified nursing assistants (CNAs) in Eureka (one was also a homemaker). This number was decreasing to one this summer. The CNA/homemaker is employed by Home Health Care of Nevada. A home health care worker travels from Battle Mountain to Crescent Valley, as does a community health nurse.

There are no mental health and substance abuse personnel in the County. The physician and PA provide some services, but they are not trained in these areas. When an individual is arrested for driving under the influence, substance abuse, or domestic violence, the State mandates counseling. However, this service is unavailable in Eureka County. Individuals must travel to Elko and pay for the counseling. Many cannot afford it, and do not have the transportation to travel to Elko. There needs to be a counselor who could travel to Eureka on a regular basis.

The local senior center serves 20 – 35 lunches per day, and takes seniors to Elko once a month. Transportation is not available to other locations, such as Reno. Individuals who wish to apply for Medicaid must travel to Elko. Local medical staff were willing to help individuals apply for public assistance programs if they were given the proper training. The stakeholders thought that the County could save indigent care funds if Medicaid eligibility was determined first.

The County built 12 low-income apartments for seniors. Currently, there is no assisted living or nursing facility in the County. An eight bed assisted living facility is in the planning stages.

A dentist comes to the Eureka clinic two or three times a month, and a hygienist visits once a week. The dentist will not take Medicaid, but offers a sliding fee payment schedule.

There is a significant need for all types of health professionals in Eureka County, including (but not limited to) physicians, nurses, and physical therapists. Telemedicine capabilities are in place between Austin and Eureka, with Carlin and Crescent Valley soon to follow. However, these sites are currently not able to communicate with Reno or Las Vegas. To increase the number of EMS volunteers, a basic EMT course is being taught at the local high school.

Licensure – A significant problem reported by the stakeholders was the State's stringent licensure requirements that limit the number of health care professionals in rural areas. J1 Visa applicants must be licensed by the accepting state before the application can be processed, which slows the process. It was recommended that Nevada grant a temporary or provision license during the J1 Visa application process.

Additionally, nursing assistants must have 400 work hours each year to remain certified. This work requirement is often difficult for rural CNAs to maintain.

Transportation – Meeting attendees expressed the need for transportation services that could take seniors and low-income residents to Elko for medical care more than once a month.

(2) Recommendations from Community Input Process

- Work to identify and create the incentives necessary to attract health care professionals to the County.
- Identify available mobile services for providers and technology, and contract for availability as possible.
- Work with legislators to pass legislation that allows an easing of experience/credential requirements for State health care positions in rural communities.
- Recruit additional nurses and other technical staff to clinic and home health care agency.
- Create training/incentive programs for local residents to become health professionals.
- Work with State officials to streamline the public assistance eligibility processes, including development of an electronic application.
- Request that clinic/County staff be trained to assist community residents apply for public assistance programs.
- Support the creation of a low-cost insurance product.
- Develop transportation system to provide needed transportation for seniors and other low-income residents.
- Work with Bureau of Community Health staff to expand chronic and preventive care capabilities of community health nursing staff.
- Expand outreach activities, including making available printed materials regarding health promotion and lifestyle improvements.

7. Humboldt County (Winnemucca)

a. Demographics

Humboldt County's population has increased over the ten year period from 1990 to 2000 by 25 percent. Its population density of 1.7 persons per square mile is below the rural/frontier average of 2.96.[108] Humboldt County, with only about one in twelve persons 65 years or over and with a median age of 33.4, has one of the youngest populations in Nevada's rural/frontier counties. Humboldt County also has one of the highest Hispanic and Latino populations, at 19 percent of total county population. Its per capita income is slightly lower than the rural/frontier weighted average of $27,045. The top three industries in Humboldt County are services, mining, and retail trade, employing just over 70 percent of employees working in the County. The following table summarizes some demographic, income, and industry information for Humboldt County.

[108] The rural/frontier population density, excluding Carson City County, is 2.4 persons per square mile.

Humboldt

Population	
Total population (1990)	12,844
Total population (2000)	16,106
Percent change in population from 1990 to 2000	25%
Land area (square miles)	9,648
Population per square mile (2000)	1.7
Population distribution as percent of total population (2000)	
Population 65 years and over	8%
Hispanic or Latino	19%
White	83%
Black or African American	1%
American Indian and Alaska Native	4%
Asian or Pacific Islander	1%
Other race(s)	12%
Median age (2000)	33.4
Income	
Per capita personal income (2000)	$25,665
Industry	
Top three industries by percent of employees in each	
Services	25%
Mining	24%
Retail Trade	22%

b. Community Meeting Results

Five community stakeholders attended the meeting in Winnemucca on May 2, 2002. The meeting was facilitated by members of the LECG consulting team; three representatives from the Bureau of Community Health also participated. The evening public forum was attended by three community residents. Because of the limited participation at the meetings, we have some concerns that the issues and recommendations identified herein may not reflect the full range of health care issues that the community and County are facing. There may be a need for further issue identification before implementation of any recommendations.

(1) Issues

Health Professional Shortage – The biggest concern identified by the meeting attendees was the lack of sufficient health care providers. Winnemucca has one full-time dentist and others visit (equivalent to one full-time dentist). None will see individuals covered by Medicaid or Nevada Check-Up. Children

under 7 years old must be taken to Reno for dental care, and children over 7 must go to Elko. Other staffing shortages that were identified included nurses, mental health professionals, drug and alcohol treatment specialists, and Division of Child and Family Services staff. There is an optometrist in Winnemucca, but he will not accept any insurance plans.

Through Winnemucca's DMHDS, a psychiatrist is available two days a month. The clinic is staffed by a clinic director, one psychologist, a marriage and family therapist, a social worker, one service coordinator, and a half-time nurse. There is another private practice therapist in town. The mental health clinic currently has two vacancies. It was reported that if a county resident has a severe mental health problem, the only place to house him/her temporarily is the jail. Sheriff's staff are not trained to deal with people in mental health crisis.

Uninsured Population – Another issue reported by the meeting attendees is that no services are available for undocumented immigrants. It was estimated that approximately half of the children in local schools are undocumented. When needed care can be found, there is no one to interpret for the patient.

Prevention Programs – The meeting participants said that Humboldt County has the highest percentage of teen pregnancies in the State. Last year, the school district's revenue was down $2.4 million, because school enrollment decreased by 700 students over the last three years. As a result, the number of school nurses has been reduced from 3.5 to one. In addition, the public health nurses can not participate in pregnancy prevention programs in the schools, because they are not teachers.

Alcohol and drug abuse were also reported as serious problems in the area. The County (with two others) recently received a $550,000 grant over five years to develop prevention and education programs for juveniles. Services are currently provided by New Frontier (one month wait), Silver Sage, and Vitality Center. It was suggested that a treatment center is needed in Winnemucca.

A third problem for which prevention and intervention programs are needed is domestic violence. It was suggested that the County develop a coalition to address these issues, including the need for a domestic violence shelter in the community.

(2) Recommendations from Community Input Process

- Work with State officials to bring additional medical, dental, and mental health providers to the community.
- Pass legislation that allows an easing of experience/credential requirements for State health care related positions in rural communities.
- Support the creation of a statewide low-cost insurance product.
- Recruit and train health care interpreters for Hispanic patients.
- Allow State public health personnel to present teen pregnancy prevention programs in the schools.
- Support the work of the tri-county alcohol and drug abuse coalition.
- Develop community coalition to address domestic violence issues.
- Work with Bureau of Community Health officials to convene a domestic violence conference.

8. Lander County (Battle Mountain)

a. Demographics

Lander County's population has decreased over the ten-year period from 1990 to 2000 by eight percent. Its population density of 1.1 persons per square mile is below the rural/frontier average of 2.96.[109] Lander County, with only about one in fourteen persons 65 years or over and with a median age of 34.1, has one of the youngest populations in Nevada's rural/frontier counties. Lander County also has a high Hispanic and Latino population, at 19 percent of total county population. Its per capita income is slightly lower than the rural/frontier weighted average of $27,045. The top three industries in Lander County are mining, retail trade, and services, employing 90 percent of employees working in the County. The following table summarizes some demographic, income, and industry information for Lander County.

[109] The rural/frontier population density, excluding Carson City County, is 2.4 persons per square mile.

Lander

Population	
Total population (1990)	6,266
Total population (2000)	5,794
Percent change in population from 1990 to 2000	-8%
Land area (square miles)	5,494
Population per square mile (2000)	1.1
Population distribution as percent of total population (2000)	
Population 65 years and over	7%
Hispanic or Latino	19%
White	84%
Black or African American	0.2%
American Indian and Alaska Native	4%
Asian or Pacific Islander	0.4%
Other race(s)	11%
Median age (2000)	34.1
Income	
Per capita personal income (2000)	$25,308
Industry	
Top three industries by percent of employees in each	
Mining	55%
Retail Trade	25%
Services	10%

b. Community Meeting Results

The community stakeholders and residents met with members of the LECG consulting team and representatives from the Bureau of Community Health on May 1, 2002. A total of eight individuals attended the afternoon stakeholders meeting. The evening public forum was attended by eight individuals.

(1) Issues

Provider Availability – Located 147 miles northeast of Reno, Battle Mountain General Hospital in Battle Mountain provides a variety of general and specialty services. The facility has nine acute care and 16 long term care beds. The hospital has an ER that is available 24 hours a day, seven days per week. The hospital complex operates a clinic from 8:30am – 5:00pm, Mondays through Fridays, with extended hours to 7:30pm on Monday, Tuesday, and Wednesday.

It offers full service laboratory, radiology, ultrasound, CT scan, respiratory therapy and physical therapy services.

There are four providers (two internists, one general practitioner, and one nurse practitioner), either employed by or contracted with the hospital. The following specialists come to the hospital on either a weekly or monthly basis: two OB/GYNs, an orthopedic surgeon, a podiatrist, and an ENT. Currently, the hospital is working to add cardiology, optometry, and occupational and speech therapy services. Prenatal care and delivery and pediatric services continue to be provided primarily in Elko. Overall, it was estimated that approximately 1/3 of residents seek health care services outside of Battle Mountain.

Attendees stated that there is a shortage of nurses in Battle Mountain. It was identified at the meeting that this shortage is exacerbated by the higher hourly wages that are offered in Winnemucca ($3.00 more per hour) and Elko ($6.00 more per hour). A need for incentive programs, including loan repayment, to attract nurses to the community was identified.

Telemedicine capabilities are just coming to Battle Mountain. An MRI machine is available once a week and the Mammovan comes to the community three times a year. The County has a volunteer ambulance service with EMTs and a paramedic. EMT classes are offered at Great Basin College.

Dental – Attendees stated that there is one dentist in Battle Mountain. However, he does not see Medicaid recipients and his practice was expected to close in July 2002. As a result, most non-emergency dental services are obtained out of the County, in either Winnemucca or Elko. Several attendees stated that dental services were the most difficult of all services to access and expressed the need for making dental services available in Battle Mountain.

Senior Services – The senior center was identified as providing good, nutritious meals to residents. The center operates two vans; it provides transportation to the center and limited transportation to services outside of Battle Mountain. There are no assisted living facilities in the community. This

contributes to an increasing need for home health and homemaker services for the growing elderly population.

Family caretakers stated that they have no one to consult with on health care issues. This makes it difficult for them to provide appropriate care. Through Home Health Services of Nevada, home health and homemaker services are provided by a registered nurse and seven or eight homemakers (all part-time, four or five are certified nursing assistants).

It was stated during the meetings that there is a need to expand the volunteer hospice program into a larger program that includes respite care for caregivers. Several attendees noted that respite care for family caregivers and personal care for homebound persons who are not eligible for Medicaid were priority issues.

Behavioral Health - Similar to other rural counties, Battle Mountain has a growing need for behavioral health professionals. Through DMHDS, there is a masters level social worker available three days a week. Once a month a psychiatrist and registered nurse provide behavioral health and substance abuse services. However, the current staffing is not enough and results in a three-month wait to see the psychiatrist and a one month wait for counseling.

A substance abuse provider is also available from Winnemucca and comes to Battle Mountain as necessary. However, this provider is private pay and offers no sliding fee payment schedule.

Uninsured Population – Attendees at the meeting stated that seniors with Medicare only coverage need help paying for prescription drugs. Some attendees expressed interest in exploring a program to help cover the cost of prescriptions for the elderly.

Attendees also indicated that there is a shortage of OB/GYN services for low income, non-documented residents that are not eligible for Medicaid. Up front fees are often required before providers will see them. Interpreter services are also needed.

Transportation – Many health care services are accessed outside of Battle Mountain in either Elko, 70 miles east, or Winnemucca, 50 miles to the west. As a result, transportation plays a crucial role in getting residents to providers. The senior center provides some transportation for the elderly, but it is not enough. There is a need for additional transportation assistance for low-income individuals, particularly seniors.

Preventive Care – The need for education and prevention programs on proper nutrition, teen pregnancy, smoking cessation, and diabetes prevention/control was identified as a priority for the County.

(2) Recommendations from Community Input Process

- Work to identify and create the incentives necessary to attract targeted health care professionals, particularly dentists, optometrists, pediatricians, mental health and substance abuse personnel, and nurses to Battle Mountain.
- Identify available mobile services for providers and technology, and contract for availability as possible.
- Work with State officials to assist seniors with prescriptions by expanding eligibility for the Senior Rx program.
- Work with Bureau of Community Health staff to expand chronic and preventive care capabilities of community health nursing personnel.
- Expand outreach activities, including making available printed materials regarding health promotion and lifestyle improvements.
- Develop transportation system to provide needed transportation for seniors and other low-income residents.
- Expand respite care and hospice services in the community.
- Work with local providers to improve interpreter services and cultural sensitivity.

9. Lincoln County (Caliente)

a. Demographics

Lincoln County's population has increased only slightly (10 percent) over the ten-year period from 1990 to 2000. Its population density of .4 persons per square mile is among the lowest of the rural/frontier counties. About one in six persons in Lincoln County is 65 years or older.[110] Its per capita income is below the rural/frontier weighted average of $27,045. Like all rural/frontier counties, Lincoln County has a predominantly white population with the second highest percent of population by race (5 percent) being 'other races'. The top three industries in Lincoln County are retail trade; finance, insurance, and real estate; and transportation and public utilities, employing 81 percent of employees working in the County. The following table summarizes some demographic, income, and industry information for Lincoln County.

[110] This compares to one in ten in Clark and Washoe Counties.

Lincoln

Population	
Total population (1990)	3,775
Total population (2000)	4,165
Percent change in population from 1990 to 2000	10%
Land area (square miles)	10,634
Population per square mile (2000)	0.4
Population distribution as percent of total population (2000)	
Population 65 years and over	16%
Hispanic or Latino	5%
White	92%
Black or African American	2%
American Indian and Alaska Native	2%
Asian or Pacific Islander	0.4%
Other race(s)	5%
Median age (2000)	38.8
Income	
Per capita personal income (2000)	$22,805
Industry	
Top three industries by percent of employees in each	
Retail Trade	59%
Finance, Insurance, and Real Estate	12%
Transportation and Public Utilities	10%

b. Community Meeting Results

The community stakeholders and residents met with members of the LECG consulting team and representatives from the Bureau of Community Health on May 21, 2002. A total of 17 individuals attended the afternoon stakeholders meeting. Three individuals attended the evening public forum.

(1) Issues

Provider Availability – Grover C. Dils Medical Center in Caliente has four acute and 16 long term care beds. There is a 24-hour a day, seven days per week ER, and the hospital also operates a clinic that is open from 10am – 6pm, Monday through Friday. Three physicians (two internal medicine and one pediatrician) are employed at the clinic. Alamo also has a clinic with one nurse practitioner. Physicians from the Grover C. Dils clinic visit the Alamo clinic periodically. An orthopedic physician, audiologist, and podiatrist visit the

hospital/clinic a few times a month. For other specialty care, residents must travel to Las Vegas or St. George, Utah.

The closest dentist is in Panaca; he travels to Caliente three days a week. He treats all patients (regardless of insurance coverage), performs oral surgery, and also provides orthodontia care. He reported that a large number of his patients have transportation problems; as a result, his "no show" rate is approximately 30 percent.

Caliente has a visiting psychologist twice a month. The other behavioral health professional in town has a long waiting list, with wait times up to six weeks. Stakeholders reported that mental illness and substance abuse were significant problems in the community. If an individual has a behavioral health crisis, he or she must go to Grover C. Dils' ER, the jail, or be transported to Las Vegas. The local EMS volunteer staff reported that before they transport a person to Las Vegas, they must have an accepting facility. This process often delays transport. Helicopter and fixed wing transportation are available, but it takes 60 minutes for these vehicles to arrive from Las Vegas.

Grover C. Dils' long term care facility has trouble hiring and retaining nurses. There is one home health registered nurse for the entire county. Daily nursing care is not available. The local senior center serves lunch and also delivers approximately 75 meals each weekday.

Most individuals who reside in Lincoln County purchase prescriptions through the mail, because there is only one pharmacy in Caliente. Attendees reported that eligibility for the Senior Rx program should be expanded.

The County offers transportation service to Las Vegas for a nominal charge. Its indigent care program is currently $180,000 over budget, but the local taxing capability is capped. Because of its cost and increased utilization, the County cannot provide adequate hospital care. Attendees thought that the State should fund local health care on a per capita basis.

The Hospital has submitted a proposal to State and federal officials to triple its square footage. The acute and LTC facilities would be separated and the ER would be expanded. The current hospital area would become the clinic. However, recruiting needed physicians, dentists, nurses, and other health care professionals to the area continues to be an ongoing problem.

To attract health care professionals to Lincoln County, the stakeholders thought that the nursing schools should guarantee slots to students from each county. If that could be done, the hospital would provide scholarship money. They also suggested that a liberal benefits package, including housing and malpractice insurance/loan reimbursement, would also attract practitioners to rural communities.

Health Insurance – Another issue reported by the stakeholders was the poor health insurance coverage provided to State employees. A large percentage of local residents are covered by the State plan; these include employees of the local college, ambulance service, hospital, and school district. Costs have risen significantly, benefits are decreasing, and the provider network is often nonexistent in rural areas. Community residents may have to travel an hour or more to see physicians that are part of the State's provider network, and cannot see providers in Utah.

On the other hand, county employees are covered by a Teamsters' health insurance plan. They can access Utah providers, and dependent care is approximately $160 per month, significantly less than what was reported in other Nevada counties.

One related issue that was raised by the meeting attendees was the difficulty some community residents experience applying for public assistance programs. Hospital staff offered to assist with the application process if they could receive needed training.

Medicare HMOs – A couple came to the public forum who live in Caliente, but must maintain a second home in Las Vegas so that they can participate in a

Medicare HMO. Because of a lack of managed care in the State, individuals who live outside Las Vegas or Reno cannot join a Medicare HMO.

(2) Recommendations from Community Input Process

- Work to identify and create the incentives necessary to attract health care professionals to the County.
- Identify available mobile services for providers and technology, and contract for availability as possible.
- Work with legislators to pass legislation that allows an easing of experience/credential requirements for State health care positions in rural communities, so that current staffing levels can be maintained/improved.
- Recruit additional nurses and other technical staff to hospital.
- Work with State officials to expand eligibility for the Senior Rx program.
- Create training/incentive programs for local residents to become health professionals.
- Work with State officials to streamline the public assistance eligibility processes, including development of an electronic application.
- Request that hospital/clinic staff be trained to assist community residents apply for public assistance programs.
- Work with State officials to bring Medicare HMO options to rural communities.

10. Lyon County (Yerington)

a. Demographics

Lyon County's population has increased over the 10 year period from 1990 to 2000 by 72 percent. Its population density of 17.3 persons per square mile is well above the rural/frontier average of 2.96.[111] Its per capita income is below the rural/frontier weighted average of $27,045. Like all rural/frontier counties, Lyon County has a predominantly white population. Eleven percent of its population is Hispanic/Latino. The top three industries in Lyon County are services, retail trade, and manufacturing, employing almost 70 percent of employees working in the County. The following table summarizes some demographic, income, and industry information for Lyon County.

[111] The rural/frontier population density, excluding Carson City County, is 2.4 persons per square mile.

Lyon

Population	
Total population (1990)	20,001
Total population (2000)	34,501
Percent change in population from 1990 to 2000	72%
Land area (square miles)	1,994
Population per square mile (2000)	17.3
Population distribution as percent of total population (2000)	
Population 65 years and over	14%
Hispanic or Latino	11%
White	89%
Black or African American	1%
American Indian and Alaska Native	2%
Asian or Pacific Islander	1%
Other race(s)	8%
Median age (2000)	38.2
Income	
Per capita personal income (2000)	$22,318
Industry	
Top three industries by percent of employees in each	
Services	27%
Retail Trade	22%
Manufacturing	20%

b. Community Meeting Results

A meeting with 20 community stakeholders was held in Yerington on the afternoon of April 23, 2002. Also attending the meeting were members of the LECG consulting team and two representatives from the Bureau of Community Health. The evening public forum was attended by 10 community residents.

(1) Issues

Uninsured Population – Concern was expressed by the stakeholders and community residents about the high cost of health insurance. As costs continue to rise, the problem increases for local employers, as well as employees that must purchase dependent coverage. The County's health insurance premiums increased by 12 to 15 percent this year, and premiums for family coverage are as high as $900 per month for a family. Only five of South Lyon Medical Center's (SLMC's) 127 employees purchase dependent coverage. In addition to the cost, this may also be because the spouse covers the family with his/her insurance.

Funding long term care for indigent residents is a serious concern for the County. According to a County representative, Lyon County pays more than $1 million per year for indigent care. It was reported that a number of Hispanic residents are moving to the County, a majority of whom do not have health insurance.

Service Accessibility – Lyon County is a large, expansive county with many population centers. Fernley is located in the northern part of the County; it is approximately 30 minutes from Reno/Sparks. A clinic provides primary care services. Individuals that require inpatient care generally travel to Reno/Sparks.

Silver Springs has a community tax supported hospital district that funds a primary care clinic. The clinic is staffed by a group of physicians from Reno and a physician's assistant. The clinic has two dental chairs and is currently seeking a dentist. There is no hospital in Silver Springs, so residents usually travel to Fallon, Carson City, or Yerington. All hospitals are approximately 30 miles from Silver Springs.

Dayton has a primary care/urgent care center that is supported by Carson-Tahoe Hospital. Care is provided by a physician and a nurse practitioner. Carson-Tahoe Hospital is currently building a large medical complex in Dayton. Inpatient services are obtained in Carson City.

SLMC is located in Yerington. It has 14 acute care and 49 long term care beds. The long term care facility is always full and has a waiting list. It was a county hospital until the mid-80s when it became a district hospital. It is supported by a tax on Yerington and Smith Valley residents.

SLMC has an ER that is available 24 hours a day, seven days per week. The hospital provides full service laboratory, radiology (including mammography and CT – mobile MRI is available once a week), and physical, speech, and occupational therapies. It is equipped for telemedicine and teleradiology. SLMC also operates a home health agency that provides personal care attendants and homemaker services.

The hospital employs four physicians who also operate two rural clinics in Yerington and one in Smith Valley. All clinics offer a sliding fee schedule. Periodic specialty clinics are available in cardiology, endocrinology, podiatry, gastroenterology, surgery, OB/GYN, ENT, orthopedics, and urology.

The Yerington Paiute Tribal Clinic is staffed by a physician and a nurse practitioner. It recently opened the clinic to non-tribal members. The clinic has a lab and two dental chairs.

Meeting attendees reported that residents usually leave the area for obstetric care, surgery, dialysis, radiation, chemotherapy, dermatology, and neurology care. In Yerington, there is no dentist that will accept Medicaid reimbursement.

The DMHDS clinic in Yerington is staffed by a psychologist and two social workers. A psychiatrist is available three days per month. There are also satellite offices in Dayton, Fernley, and Silver Springs. The Dayton office employs a director, two social workers, and has a psychiatrist visit three days per month. At the Fernley office, there is a psychologist, a social worker, and a psychiatrist two days per month. The Silver Springs office has two social workers and a psychiatrist three days per month. All Lyon County offices share a nurse.

It is difficult to find affordable behavioral health services. A long waiting list was reported for behavioral health services in Silver Springs. Veterans currently must travel to Reno to obtain health care services, although SLMC is working with VA officials to offer a VA clinic at the Hospital one day a week.

Ten years ago, the hospital district instituted a $.25 tax to fund health care. According to meeting attendees, there is room in the tax base for additional health care funding.

Other service gaps include home health care and community based services for elderly that still live at home. We were told that the home health agency made 326 home visits in March. They could have provided more visits

with additional staff. It was reported that hospitalized residents must sometimes remain in the hospital because home health care is not available.

The community has difficulty recruiting physicians and nurses to the area. It offers scholarships to physicians and nurses in training, but workforce shortages still exist.

(2) Recommendations from Community Input Process

- Support the creation of a statewide low-cost insurance product.
- Consider the implementation of additional hospital district taxes to fund health care delivery improvements.
- Recruit additional providers to County.
- Expand County's home health care services and staffing.
- Open VA clinic at South Lyon Medical Center.
- Recruit and train health care interpreters for Hispanic patients.

11. Mineral County (Hawthorne)

a. Demographics

Mineral County's population has decreased over the ten year period from 1990 to 2000 by 22 percent. Its population density of 1.4 persons per square mile is below the rural/frontier average of 2.96.[112] One in five persons is 65 years or older.[113] Its per capita income is only slightly below the rural/frontier weighted average of $27,045. Like all rural/frontier counties, Mineral County has a predominantly white population, followed by American Indians and Alaska Natives at 15 percent. The top three industries in Mineral County are services; retail trade; and finance, insurance, and real estate, employing almost 94 percent of employees working in the County. The following table summarizes some demographic, income, and industry information for Mineral County.

[112] The rural/frontier population density, excluding Carson City County, is 2.4 persons per square mile.

[113] This compares with one in ten in Clark and Washoe Counties.

Mineral

Population	
Total population (1990)	6,475
Total population (2000)	5,071
Percent change in population from 1990 to 2000	-22%
Land area (square miles)	3,756
Population per square mile (2000)	1.4
Population distribution as percent of total population (2000)	
Population 65 years and over	20%
Hispanic or Latino	8%
White	74%
Black or African American	5%
American Indian and Alaska Native	15%
Asian or Pacific Islander	1%
Other race(s)	5%
Median age (2000)	42.9
Income	
Per capita personal income (2000)	$25,378
Industry	
Top three industries by percent of employees in each	
Services	70%
Retail Trade	19%
Finance, Insurance, and Real Estate	5%

b. Community Meeting Results

The stakeholder and community meetings for Mineral County were held April 24, 2002 in Hawthorne. Sixteen people attended the stakeholder meeting and seven community residents attended the public forum. The LECG consulting team and Bureau of Community Health staff attended both meetings.

(1) Issues

Service Availability – The biggest issue raised in Mineral County is the need for improved services for senior citizens. Mt. Grant General Hospital is a public facility, with 11 acute care and 24 long term care beds. The Hospital has limited specialty care and diagnosis capabilities. The community has no assisted living facility, dialysis care, home health care, or homemaker services. Ninety percent of the County's indigent care funds are spent on long term care services. Expenses could be reduced if there were means to keep seniors in the community.

The lack of pharmaceutical services is an ongoing issue in Hawthorne. There is one pharmacy; the pharmacist commutes from Las Vegas. Reportedly, generic drugs are often not available due to a limited supply of medications. Several community members reported using only mail-order pharmacy services due to cost and availability. Pharmacy services are not available in the evenings and on weekends.

Accessing specialist, obstetric, and Veteran's services all require long drives to Fallon or Reno. For example, it is 135 miles to the VA facility in Reno/Sparks and the local VA van has had no driver for some time. Therefore, patients must often drive great distances and stay the night at their own expense to obtain services.

Hawthorne was the exception to the dental care crisis throughout the rest of rural Nevada. There is a full time dentist in Hawthorne who accepts Medicaid patients. The dentist grew up in the area and subsidizes the training of local residents to be his professional and office staff. A need for orthodontia services was reported.

Behavioral Health and Substance Abuse Services – The DMHDS clinic employs a full-time counselor; a psychiatrist is available one day per month. No other behavioral health services are available in Mineral County. Alcoholics Anonymous, Narcotics Anonymous, and Al-Anon groups are available in Hawthorne but very few professional services for substance abuse exist.

Social and Preventive Services – The meeting attendees indicated a significant lack of social and preventive services. Identified needs included classes on parenting skills, smoking cessation, teen pregnancy and domestic violence prevention, and diabetes and COPD management.

The stakeholders reported that more and more low income individuals are moving to Hawthorne. As a result, social service agencies are always in reactive, crisis mode. They expressed a need for ongoing coordination among agencies and additional staffing.

Insurance Coverage – County employees reported a 25 percent insurance premium increase in the last year. As a result, of the 95 County employees, only two are able to cover their families. There is a need for a low cost insurance product for rural residents.

(2) Recommendations from Community Input Process

- Work to identify and create the incentives necessary to attract home health care, behavioral health, and substance abuse professionals to the County.
- Identify available mobile services for providers and technology, and contract for availability as possible.
- Develop grant-writing support to seek funding for health care service infrastructure.
- Develop a regional, dedicated health care transportation system for non-emergent care since it is not feasible to support specialty care in Mineral County for the foreseeable future.
- Create training/incentive programs for local residents to become health professionals.
- Enhance the Medicaid reimbursement rate for home health care services in rural areas, because of travel distances.
- Establish crisis intervention taskforce to address the dramatic increase in low income people to the County and ways service delivery can be streamlined.
- Support the creation of a low-cost insurance product.
- Expand public health capabilities/staff in the County.
- Develop strategy to make targeted services available after hours and on weekends.
- Work with Bureau of Community Health staff to expand chronic and preventive care capabilities of community health nursing personnel.
- Expand outreach activities, including making available printed materials regarding health promotion and lifestyle improvements.
- Work with State officials to streamline the public assistance eligibility processes, including development of an electronic application process.

12. Nye County (Pahrump and Tonopah)

a. Demographics

Nye County's population has increased significantly (83 percent) over the ten year period from 1990 to 2000. Its population density of 1.8 persons per square mile is below the rural/frontier average of 2.96.[114,115] Over one in five persons is 65 years or older.[116] Its per capita income is below the rural/frontier weighted average of $27,045. Like all rural/frontier counties, Nye has a predominantly white population. Eight percent of its population is Hispanic/Latino. The top three industries in Nye County are services, retail trade, and mining, employing almost 80 percent of employees working in the County. The following table summarizes some demographic, income, and industry information for Nye County.

[114] For comparison, Carson City County's population density is similar to that of Madison, Wisconsin (360 persons per square mile), Baton Rouge, Louisiana (367 persons per square mile), and Portland, Oregon (372 persons per square mile).

[115] The rural/frontier population density, excluding Carson City County, is 2.4 persons per square mile.

[116] This compares with one in ten in Clark and Washoe Counties.

Nye	
Population	
Total population (1990)	17,781
Total population (2000)	32,485
Percent change in population from 1990 to 2000	83%
Land area (square miles)	18,147
Population per square mile (2000)	1.8
Population distribution as percent of total population (2000)	
Population 65 years and over	18%
Hispanic or Latino	8%
White	90%
Black or African American	1%
American Indian and Alaska Native	2%
Asian or Pacific Islander	1%
Other race(s)	6%
Median age (2000)	42.9
Income	
Per capita personal income (2000)	$23,479
Industry	
Top three industries by percent of employees in each	
Services	50%
Retail Trade	15%
Mining	13%

b. Community Meeting Results - Pahrump

Fourteen community stakeholders attended the meeting in Pahrump on May 22, 2002. The meeting was facilitated by members of the LECG consulting team; four representatives from the Bureau of Community Health also participated. The evening public forum was attended by 11 community residents.

(1) Issues - Pahrump

Provider Availability – There is no hospital or 24 hour medical care available in Pahrump. For medical services after 5:00pm and on weekends, residents must travel to Las Vegas. There are approximately 10 – 12 physicians in the community, including two pediatricians, an OB/GYN, and a dermatologist. Only the pediatrician offers a sliding fee payment schedule. There are also two optometrists and a podiatrist. Women's care is available only on Mondays and the provider will not accept new OB patients. A cardiologist comes to town occasionally. There are x-ray capabilities, a dialysis facility, and a blood draw center in Pahrump. A company comes to the community regularly to do

ultrasounds etc. There are three pharmacies in the community, but an insufficient number of pharmacists.

In the town of Beatty, there is a NVHC clinic that provides primary care five days per week. A physician is on call when the clinic is not open. The clinic has x-ray capabilities and a pharmacy, and employs a part time dentist. Amargosa Valley also has an NVHC clinic. In Crystal, there is a fire department with EMS, but no other services are available.

Pahrump has four dental practices, with four to seven dentists. Only one practice will see Medicaid patients.

Pahrump has a DMHDS clinic that employs a director, a psychologist, a social worker, a nurse, and a service coordinator. A psychiatrist comes to town three or four days a month, as do other behavioral health professionals. Community residents may have to wait three days for a behavioral health screening and three to six months for treatment.

The fire department will transport individuals in crisis to a Las Vegas hospital, but the wait in the Las Vegas ER can be quite lengthy. One stakeholder reported that recently a Las Vegas ER with 34 beds had 27 beds filled with patients that were waiting to be moved to other locations in the hospital, but could not because there were no open beds. These problems keep EMS personnel away from the community for extended periods. A non-medical detox facility is available in Pahrump.

Approximately 200 – 250 patients are transported to Las Vegas each month; the stakeholders estimated that one transport a week is unnecessary. Of these transports, about 35 patients go by helicopter. The average helicopter transport costs $6,000 - $8,000; it takes the helicopter about 90 minutes to arrive in Pahrump.

Several health care positions are vacant in the community. Stakeholders think that relocation expenses and other incentives are vital to attracting health care professionals to Nye County.

The local nursing facility has 120 beds, including rehabilitation beds. There are two assisted living facilities in Pahrump. Home health care is available from two agencies; there is also a local hospice.

Pahrump is working on a certificate of need for a hospital. It is the fastest growing community in the nation. Residents think that a hospital is vital to the area's continued growth and its ability to meet the needs of its residents, particularly its aging population.

Through its indigent care program, the County will pay for ER services, but not urgent care. Although there is a VA clinic, patients may wait two or three months for an appointment because there is only one physician.

A bus is available to Las Vegas three or four times per day. The cost is about $15 round trip. The Disabled Veterans operates a van that takes veterans to the VA hospital in Las Vegas. The senior center is also developing a transportation plan. Currently the senior center serves meals daily and delivers meals to the homebound.

There is a clinic on wheels that augments the services provided by the community health nurse. It provides women's health services and immunizations to residents of Beatty and Amargosa Valley. The community health center currently has 1,000 active immunization and 500 family planning patients. Because of limited staffing, some patients cannot be seen.

Several years ago, Nye and Esmeralda County joined together to create the No to Abuse program. These counties have the highest number of domestic violence incidents in the State. There is a shelter in Pahrump, but a homeless shelter is also needed. The Salvation Army provides some assistance, but social services are very limited in the County.

County Health Department Creation – Meeting participants expressed the need for a combined health department for Nye and Esmeralda Counties. The only public health staff in the area is the community health nurse, who also is the County Health Officer and the hazardous materials technician. Other than

the materials provided at the community health center, there are no organized prevention or health promotion programs in the community. A health department could also attract additional grant money to the counties for improving health care/promotion delivery systems.

Stakeholder Meetings – Community stakeholders in Pahrump meet monthly to network and compare notes. We think this is a "best practice" that should be recommended to all rural communities in Nevada.

(2) Recommendations from Community Input Process - Pahrump

- Continue efforts to build hospital in Pahrump.
- Work to identify and create the incentives necessary to attract health care professionals to the County.
- Identify available mobile services for providers and technology, and contract for availability as possible.
- Work with legislators to pass legislation that allows an easing of experience/credential requirements for State health care positions in rural communities, so that current staffing levels can be maintained/improved.
- Create training/incentive programs for local residents to become health professionals.
- Support the creation of a low-cost insurance product.
- Expand public health capabilities/staff in the County.
- Develop strategy to make targeted services available after hours and on weekends.
- Develop transportation system to provide needed transportation for seniors and other low-income residents.
- Continue to explore the creation of a bi-county health department and assess the potential revenue sources available to fund needed services.
- Work with Bureau of Community Health staff to expand chronic and preventive care capabilities of community health nursing personnel.
- Expand outreach activities, including making available printed materials regarding health promotion and lifestyle improvements.

c. Community Meeting Results – Tonopah

A meeting with 17 community stakeholders was held in Tonopah on the afternoon of April 24, 2002. Also attending the meeting were members of the LECG consulting team and three representatives from the Bureau of Community Health. The evening public forum was attended by 11 community residents.

(1) Issues - Tonopah

Provider Availability – Tonopah is located 200 miles from Las Vegas and 235 miles from Reno. As a result, the community of about 3,000 residents represents one of the most geographically remote areas in Nevada. The Nye Regional Medical Center, which was recently purchased and is now a for-profit hospital, is located in Tonopah and has 10 acute care and 32 long term care beds. The hospital offers general adult medical and surgical care services and has an ER that is available 24 hours a day, seven days per week.

The hospital operates a clinic Monday through Friday and offers periodic access to ENT services. Maternity deliveries are only performed in emergency situations. There is a chiropractor and optometrist in Tonopah. It is anticipated that telemedicine capabilities, although currently in place, will be enhanced within the next year to help alleviate the shortage of specialty services. All trauma cases are sent to Las Vegas. Specialty care is provided in Las Vegas, Reno, or Bishop, California. Because of its geographic distance to major cities, several attendees stated the need to expand specialty services to include an OB/GYN, cardiologist, and ophthalmologist.

Attendees said that there is a significant need for all types of health professionals and support staff in Tonopah. Identified needs included registered nurses, as well as a dietary aide, janitor, and housekeepers for the hospital. It was suggested that nurse practitioners be allowed to provide expanded services in view of the nursing shortage. Although the State Board of Nursing has no requirement regarding the proximity of a nurse practitioner to his/her supervising physician, the State Board of Medical Examiners requires that the individuals

practice in the same community. This rule often limits the availability of nurse practitioners in rural areas.

Some services are only sporadically available because providers think the travel time is too long. Several attendees identified the need to relocate providers to the community and suggested that incentives, including a guaranteed income, moving expense reimbursement, housing, and office equipment be explored. It was also suggested that a clinic be built in Gabbs.

There is one dentist in Tonopah. However, attendees stated that there is a seven-month wait for non-emergent care and the dentist does not accept Medicaid patients.

It was mentioned that there is frequent turnover of primary care providers, as most are here on J1 Visas. Since J1 Visas prevent physicians from permanently locating in a community, turnover is expected. However, in a community with few providers, turnover among J1 Visa physicians has a noticeable impact on the community. The stakeholders thought that Tonopah should be given a larger allocation of the J1 Visa slots available based upon its medically underserved status, rather than the current methodology that allocates J1 Visa physicians to counties based on population.

Another J1 Visa requirement that affects rural communities is the need for a federal agency to monitor the participant's activities. This has limited the program's size. The stakeholders thought that the State or rural counties would willingly take on this responsibility, if it would bring additional providers to rural communities.

Behavioral health services are limited to a social worker that travels to Tonopah every other week. A psychologist is available in Pahrump (160 miles away), but there is a three to six month wait for an appointment. Several attendees stated that there is a severe shortage of behavioral health services, particularly family counseling; this service gap often increases the need for acute

care services. Care or intervention is needed immediately, not weeks later as currently available.

New Frontier provides substance abuse services in Tonopah one day per week. Stakeholders identified the need for drug abuse treatment for adolescents and adults.

The situation is even worse in Esmeralda County. There are no health care professionals delivering care in the entire county. The community health nurse from Tonopah travels to Goldfield, Silver Peak, Dyer, and Fish Lake Valley on a periodic basis.

Uninsured Population – The stakeholders estimated that approximately 50 percent of the dependents of insured individuals do not have coverage because of the cost. Over the last year, premiums have increased 14 percent for the County. As a result, there is a large population of residents between 19 and 64 years that is uninsured. Recent 200 to 300 percent increases in malpractice insurance premiums were identified as a contributor to health insurance premium increases. Meeting attendees suggested that legislation is needed to impose a cap on malpractice settlements.

It was also stated that although many residents qualify for the comprehensive health services offered by Medicaid, there are many elderly residents that have only Medicare coverage and, therefore, no prescription drug benefit. Several attendees identified soaring prescription costs as a priority issue for the elderly and suggested that physicians be more aware of out of pocket drug costs and identify lower cost generics whenever possible. Also the eligibility limits of the Senior Rx program should be expanded.

Senior Services – The senior center serves and deliver meals to residents and provides limited transportation to medical services outside of Tonopah. However, several attendees stated that the center needs additional vans and drivers to meet citizen demand.

There are no assisted living facilities in the community. This contributes to an increasing need for home health and homemaker services for the elderly population. Through Home Health Services of Nevada, several part-time employees living in the community provide homemaker services. A home health agency outside of Tonopah provides services through certified nursing assistants, but no skilled care is available. One attendee stated that residents are often discharged after major surgery with no home care, as providers are not available.

Preventive Care – Stakeholders discussed the need for early intervention and prevention services, as well as chronic disease management. They agreed that the State must have a long term fiscal commitment to health. Teenage pregnancy was identified as a worsening problem. A County representative stated that Nye County is considering hiring a grant administrator (perhaps shared with Esmeralda County) who could identify and apply for grant funding. This money could be used for health care infrastructure planning and funding preventive services.

Transportation – Many health care services are accessed outside of Tonopah in either Las Vegas or Reno. As a result, transportation plays a crucial role in getting residents to providers. The senior center provides some transportation for the elderly, but it is not enough. Bus service is available to residents, but it does not provide round trip service within the same day. As a result, residents must often stay overnight in Reno or Las Vegas. There is a need for transportation assistance for low-income individuals.

Other transportation issues surround the emergency transport of individuals to Las Vegas hospitals. A problem that has been experienced recently includes planes/helicopters being turned around because of ER closures or differences in trauma criteria.

(2) Recommendations from Community Input Process - Tonopah

- Work to identify and create the incentives necessary to attract health care professionals to the County, including specialty physicians, nurses,

behavioral health professionals, substance abuse practitioners, and support staff.

- Identify available mobile services for providers and technology, and contract for availability as possible.
- Work with legislators to pass legislation that allows an easing of experience/credential requirements for State health care positions in rural communities, so that current staffing levels can be maintained/improved.
- Recruit additional nurses and other technical staff to hospital, clinic, and home health care agency.
- Create training/incentive programs for local residents to become health professionals.
- Support the creation of a low-cost insurance product.
- Develop transportation system to provide needed transportation for OB patients, seniors, and low-income residents.
- Recruit grants administrator and identify grant opportunities that will provide funds for outreach and prevention activities.
- Work with State officials to expand eligibility limits for Senior Rx program.
- Expand outreach activities, including making available printed materials regarding health promotion and lifestyle improvements.

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13. Pershing County (Lovelock)

a. Demographics

Pershing County's population has increased over the ten year period from 1990 to 2000 by 54 percent. Its population density of 1.1 persons per square mile is below the rural/frontier average of 2.96.[117] Pershing County has one of the highest Hispanic and Latino populations, at 19 percent of total county population. Its per capita income is significantly lower than the rural/frontier weighted average of $27,045. The top three industries in Pershing County are mining, retail trade, and services, employing 82 percent of employees working in the County. The following table summarizes some demographic, income, and industry information for Pershing County.

[117] The rural/frontier population density, excluding Carson City County, is 2.4 persons per square mile.

Pershing

Population	
Total population (1990)	4,336
Total population (2000)	6,693
Percent change in population from 1990 to 2000	54%
Land area (square miles)	6,037
Population per square mile (2000)	1.1
Population distribution as percent of total population (2000)	
Population 65 years and over	8%
Hispanic or Latino	19%
White	78%
Black or African American	5%
American Indian and Alaska Native	3%
Asian or Pacific Islander	1%
Other race(s)	13%
Median age (2000)	34.4
Income	
Per capita personal income (2000)	$16,810
Industry	
Top three industries by percent of employees in each	
Mining	48%
Retail Trade	22%
Services	12%

b. Community Meeting Results

A meeting with 11 community stakeholders was held in Lovelock on the afternoon of April 18, 2002. Also attending the meeting were members of the LECG consulting team and three representatives from the Bureau of Community Health. The evening public forum was attended by 16 community residents.

(1) Issues

Service/Provider Availability – Pershing General Hospital has a primary care clinic that is staffed by two physicians and a nurse practitioner. The consensus of the meeting attendees was that the County needed additional specialty care providers. An orthopedic physician, optometrist, podiatrist, and dentist come to town periodically to provide services, but most residents must travel to Fallon or Reno for specialty care, including obstetrics. Hospital representatives tried to contract with an OB/GYN physician, but they were unsuccessful. There is also a community health nurse in Lovelock.

Regarding behavioral health services, the DMHDS clinic is staffed by a counselor; a psychiatrist is available 5 hours a month. A psychologist is employed by the school district on a part-time basis. Services are also available from a private-sector marriage and family therapist, and a psychologist in Fallon. No substance abuse services are available.

There is a nursing facility in Lovelock, near the hospital. It, like the hospital, has difficulty recruiting and retaining nurses and certain technical staff. This is a particularly critical issue, because a number of individuals are moving to Lovelock to retire.

Pershing County is responsible for 85 miles of the interstate highway. Without a trauma center, most injuries must be transported to Reno. This was identified as a misuse of the County's limited transportation services.

Indigent Care – Indigent care services are available through the County, but funds are limited, and needed services are provided on a case-by-case basis. There is a great need for funds to provide medication for elderly residents with chronic conditions.

Transportation – Public transportation was also identified as a significant need. The senior center can transport seniors a few times a month for care or shopping and the VA has a van, but the need is much greater than available services. If individuals do not have transportation, they often go without care.

Social Services – Currently, there is a welfare office in Fallon and an eligibility worker comes to Lovelock one day a week. Pershing General also employs a social services person. However, there is a need for a full-time person who can assist residents apply for public assistance programs and make any needed referrals. The Community recently lost its Child Protective Services worker and Women, Infants, and Children program representative.

(2) Recommendations from Community Input Process

- Work to identify and create the incentives necessary to attract targeted specialty provider groups to the County, including statewide initiatives related to malpractice insurance caps.

- Identify available mobile services for providers and technology, and contract for availability as possible.
- Bring substance abuse services to community.
- Recruit additional nurses and other technical staff to Hospital and nursing facility.
- Work with State officials to expand eligibility for the Senior Rx Program.
- Develop transportation system to provide scheduled access to specialty services provided outside the County.
- Create training/incentive programs for local residents to become health professionals.
- Request additional State or federal funding for emergency service resources to eliminate funding inequities associated with trauma transports outside of the County.
- Work with State officials to streamline the public assistance eligibility processes, including development of an electronic application process.
- Work with State and federal officials to bring social service workers to community on a periodic basis.
- Recruit and train health care interpreters for Hispanic patients.

14. Storey County (Virginia City)

a. Demographics

Storey County's population has increased over the ten year period from 1990 to 2000 by 35 percent. Its population density of 12.9 persons per square mile is well above the rural/frontier average of 2.96.[118,119] About one in seven persons is 65 years or older.[120] Its per capita income is slightly below the rural/frontier weighted average of $27,045. Like all rural/frontier counties, Storey County has a predominantly white population. Five percent of its population is Hispanic/Latino. The top three industries in Storey County are retail trade, services, and construction, employing almost all employees working in the County. The following table summarizes some demographic, income, and industry information for Storey County.

[118] For comparison, Carson City County's population density is similar to that of Madison, Wisconsin (360 persons per square mile), Baton Rouge, Louisiana (367 persons per square mile), and Portland, Oregon (372 persons per square mile).

[119] The rural/frontier population density, excluding Carson City County, is 2.4 persons per square mile.

[120] This compares with one in ten in Clark and Washoe Counties.

Storey

Population	
Total population (1990)	2,526
Total population (2000)	3,399
Percent change in population from 1990 to 2000	35%
Land area (square miles)	263
Population per square mile (2000)	12.9
Population distribution as percent of total population (2000)	
Population 65 years and over	13%
Hispanic or Latino	5%
White	93%
Black or African American	0.3%
American Indian and Alaska Native	1%
Asian or Pacific Islander	1%
Other race(s)	4%
Median age (2000)	44.5
Income	
Per capita personal income (2000)	$25,629
Industry	
Top three industries by percent of employees in each	
Retail Trade	50%
Services	45%
Construction	5%

b. Community Meeting Results

The community stakeholders and residents met with members of the LECG consulting team and representatives from the Bureau of Community Health on May 29, 2002. A total of seven individuals attended the afternoon stakeholders meeting. The evening public forum was attended by two individuals.

(1) Issues

Provider Availability – A registered nurse, who is funded by the Community Chest (and also a contractor to the Bureau of Community Health), provides limited services to Virginia City residents two days a month. She also works in Lockwood one day a month, and visits outlying communities three days per month in the "cow bus". This vehicle is a classroom on wheels; the community health nurse provides well child education and hearing and vision screenings. A school nurse performs immunization record reviews and

addresses student health issues at the two elementary schools, middle school, and high school.

There are no physicians, dentists, or pharmacies within Storey County, and EMTs (16 in the County) often provides routine injections to residents. Lockwood has its own ambulance service beginning in July 2002. There are two family advocates that provide counseling in Virginia City, and on an as need basis in Lockwood. It is understood that to access most health care services, residents must go to either Carson City or Reno. A mobile van that could periodically bring providers to Virginia City, Mark Twain, and Lockwood would improve access.

No home health or hospice services are available locally. Providers of these services must come from either Carson City or Reno. The Community Chest does have some funds to pay for prescriptions for needy families, and the Senior Citizens Center has a van to transport seniors to medical appointments or necessary shopping destinations. The Senior Citizens Center provides approximately 50 meals to community residents daily.

County Health Department – The meeting attendees thought that the feasibility of a county health department should be explored to address the unique public health needs of the County. County commissioners would probably not approve a tax increase for additional health care personnel/services. However, the county is operating in the black and the current tax rate is low. Residents thought that the County or a coalition should apply for grants that are available to improve rural health services. Additionally, the County should consider providing the weekly health checks at the brothels. It is estimated that $1 million in revenue could be generated annually.

Preventive Health Needs – Meeting attendees reported a significant problem with alcohol and drug abuse in the County. There is also a need for family planning services. Because of Virginia City's proximity to Reno and Carson City, it cannot solely support a primary care physician or behavioral health clinician. Mobile services were suggested as one solution.

A community resource directory is needed to help residents determine where they can find appropriate health care services in the Reno/Carson City area. Strong preventive health initiatives and outreach are also needed so that residents can learn to improve and maintain their health.

(2) Recommendations from Community Input Process

- Support the procurement/addition of mobile vans/clinics to provide needed health care and preventive services to County residents.
- Develop a transportation system to provide scheduled access to services in Carson City and Reno.
- Continue to explore the creation of a county health department and assess the potential revenue sources available to fund related services.
- Work with community representatives to develop a community resource guide.
- Expand outreach activities, including making available printed materials, regarding health promotion and lifestyle improvements

15. White Pine County (Ely)

a. Demographics

White Pine County's population has decreased one percent over the ten year period from 1990 to 2000. Its population density of 1.0 person per square mile is below the rural/frontier average of 2.96.[121,122] About one in seven persons is 65 years or older.[123] Its per capita income is well below the rural/frontier weighted average of $27,045. Like all rural/frontier counties, White Pine County has a predominantly white population. Eleven percent of its population is Hispanic/Latino. The top three industries in White Pine County are services, retail trade, and mining, employing 75 percent of employees working in the County. The following table summarizes some demographic, income, and industry information for White Pine County.

[121] For comparison, Carson City County's population density is similar to that of Madison, Wisconsin (360 persons per square mile), Baton Rouge, Louisiana (367 persons per square mile), and Portland, Oregon (372 persons per square mile).

[122] The rural/frontier population density, excluding Carson City County, is 2.4 persons per square mile.

[123] This compares with one in ten in Clark and Washoe Counties.

White Pine

Population	
Total population (1990)	9,264
Total population (2000)	9,181
Percent change in population from 1990 to 2000	-1%
Land area (square miles)	8,876
Population per square mile (2000)	1.0
Population distribution as percent of total population (2000)	
Population 65 years and over	13%
Hispanic or Latino	11%
White	86%
Black or African American	4%
American Indian and Alaska Native	3%
Asian or Pacific Islander	1%
Other race(s)	5%
Median age (2000)	37.7
Income	
Per capita personal income (2000)	$21,178
Industry	
Top three industries by percent of employees in each	
Services	33%
Retail Trade	32%
Mining	10%

b. Community Meeting Results

The community stakeholders and residents met with members of the LECG consulting team and representatives from the Bureau of Community Health on May 14, 2002. A total of 26 individuals attended the afternoon stakeholders meeting. The evening public forum was attended by 16 individuals.

(1) Issues

Provider Availability – William Bee Ririe Hospital in Ely has 15 acute care beds. There are two family practitioners, three internal medicine physicians, a pediatrician, an OB/GYN, and a general surgeon on staff. The community's long term care facility has 99 beds but is at capacity at 75 because of a lack of sufficient nursing and support staff.

The hospital has an ER that is available 24 hours a day, seven days per week. It also has two labor and delivery rooms, three ICU beds, and a room that can be used for inpatient behavioral health care. The following specialists come to the hospital, either on a weekly or monthly basis: two podiatrists, two

orthopedists, a neurologist, a dental surgeon, a cardiologist, and an ophthalmologist. The majority of the visiting specialists come from Utah. There is an optometrist, three pharmacists, and three dentists in Ely; one of the dentists will see Medicaid patients.

Ely's DMHDS clinic has a licensed social worker, a RN, a service coordinator, and two support staff. A drug and alcohol abuse position is funded, but currently vacant. A psychiatrist comes to Ely two days per month. With this staffing, there is still a three-month waiting list for services and it takes two months to see the psychiatrist.

There is a rural health clinic in Ely, with 10 physicians and a PA. The clinic is open five days a week.

The only health care service available in Baker is EMS. Additional home health or public health staff would be a significant improvement.

Insured individuals in the County reported that the provider networks for several health insurance plans do not include providers in their area. They are forced to travel to other communities for care, even when providers are available locally.

Other provider availability issues identified included the lack of an assisted living facility and insufficient home health care and Senior Center staff. Ely is an aging community, with insufficient resources to provide the services that seniors need. The stakeholders estimated that five to 10 percent of community seniors do not avail themselves of medical care because they cannot afford it. The high school is starting a program to train nursing assistants.

Uninsured Population – Ely recently received a $200,000 grant to provide health care to uninsured students. It is estimated that approximately half of the students in the community do not have health insurance. A representative from Vocational Rehabilitation said that 85 percent of its clients have no health insurance coverage. The stakeholders also said that there is a significant adult population without insurance. Available health insurance products are financially

unavailable to most residents; dependent coverage for County employees is approximately $500 a month.

Chronic and Preventive Care – Meeting attendees reported a serious diabetes problem in the County, and very few staff are available to provide needed education. As the County's economy declines, the incidence of behavioral health, gambling, and substance abuse problems is increasing. The stakeholders also reported a need for suicide and tobacco prevention programs.

Public transportation is available in Ely, but most low-income residents cannot afford it. The Senior Center provides some transportation, but it is not enough. Individuals covered by the VA have difficulty accessing care because of transportation problems. There is a need for additional transportation assistance for low-income individuals, particularly senior citizens.

Miscellaneous Staffing Issues – The meeting participants stated that it is very difficult for psychologists and social workers to obtain licensure in Nevada. An internship is required, but distance supervision is prohibited. It is very difficult for professionals that are overburdened with work to supervise an intern. It was recommended that licensure requirements be loosened for rural counties.

The stakeholders also expressed interest in assisting community residents to apply for public assistance programs. With needed training, hospital staff and school personnel thought they could assist applicants. The elimination of the Social Security representative position in Ely was also criticized by the meeting attendees.

Communication Capabilities – County health care personnel are hampered in their duties by poor cellular and two-way radio service in White Pine County. Hospital staff reported the need for a new base radio. Although only mentioned during the Ely meeting, this is a need of all rural hospitals.

(2) Recommendations from Community Input Process

- Work to identify and create the incentives necessary to attract health care professionals to the County.
- Identify available mobile services for providers and technology, and contract for availability as possible.
- Work with legislators to pass legislation that allows an easing of experience/credential requirements for State health care positions in rural communities, so that current staffing levels can be maintained/improved.
- Recruit additional nurses and other technical staff to hospital and nursing facility.
- Create training/incentive programs for local residents to become health professionals.
- Work with State officials to streamline the public assistance eligibility processes, including development of an electronic application.
- Request that hospital/clinic staff be trained to assist community residents apply for public assistance programs.
- Determine the feasibility of building an assisted living facility in Ely.
- Support the creation of a low-cost insurance product.
- Work with health insurance providers to expand rural provider networks.
- Expand public health capabilities/staff in the County.
- Develop transportation system to provide needed transportation for seniors and other low-income residents.
- Work with Bureau of Community Health staff to expand chronic and preventive care capabilities of community health nursing personnel.
- Expand outreach activities, including making available printed materials regarding health promotion and lifestyle improvements.
- Determine if there is new technology that will resolve the County's communication issues for EMS and hospital personnel.
- Evaluate the need for a new base radio for the hospital.